

The Commonwealth of Massachusetts

ANNUAL REPORT

OF THE

Commissioner of Conservation

AND

The State Forester and Director of Parks

FOR THE

YEAR ENDING NOVEMBER 30, 1938

DEPARTMENT OF CONSERVATION

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The Commonwealth of Massachusetts

OUTLINE OF THE REPORT OF THE DEPARTMENT OF CONSERVATION

For convenience and economy this report is divided as follows:

Part I.—The organization and general work of the Department of Conservation.

Part II.—The Division of Forestry.

Part III.—The Division of Parks.

Part IV.—The Division of Fisheries and Game. (Part IV is printed separately as Public Document No. 25.)

PART I

ANNUAL REPORT OF THE COMMISSIONER OF CONSERVATION

The thirty-fifth annual report of the Commissioner of Conservation is hereby submitted in compliance with Section 32 of Chapter 30 of the General Laws, Tercentenary Edition.

ORGANIZATION OF THE DEPARTMENT OF CONSERVATION

ERNEST J. DEAN, *Commissioner*

HERBERT W. URQUHART, *Conservation Department Secretary*

Division of Forestry

ERNEST J. DEAN, *State Forester*

HAROLD O. COOK, *Chief Forester*

MAXWELL C. HUTCHINS, *State Fire Warden*

HARRY B. RAMSEY, *Chief Moth Suppressor*

RAYMOND J. KENNEY, *Business Agent*

FRANK L. HAYNES, *Forester, Land Purchase and Surveys*

D. C. A. GALARNEAU, *Forester in Western Massachusetts*

JOHN P. CROWE, *Supervising Fire Warden*

FRANK J. SARGENT, *Forester, State Nurseries*

JAMES A. HANLON, *Forester*

JOHN P. GIBLIN, *Construction Foreman*

ARTHUR L. STUART, *Repair Shop Foreman*

ELIZABETH HUBBARD, *Head Clerk*

BARBARA E. ROWLAND, *Principal Clerk and Secretary to Commissioner*

District Fire Wardens

1. Abraham L. Estes, Sandwich
2. William Day, Wareham
3. John H. Montle, Fall River
4. James E. Moloy, Woburn
5. Joseph L. Peabody, Winchendon
6. Frederick R. Stone, South Sudbury
7. Charles L. Woodman, Oxford
8. Charles J. Glavin, Blandford
9. Verne J. Fitzroy, Shelburne Falls

Division Moth Suppressors

1. Walter F. Holmes, Buzzards Bay
2. Clarence W. Parkhurst, Wrentham
3. Michael H. Donovan, Beverly
4. John E. O'Doherty, Stoneham
5. Frederick W. Marshall, Wellesley
6. Harold L. Ramsey, Westborough
7. Grover C. Twiss, Holyoke

Division of Parks

ERNEST J. DEAN, *Director Ex Officio*

EGBERT HANS, *Consultant Landscape Architect*

ARNOLD E. HOWARD, *Park Engineer*

FRANK W. MORTON, *Park Architect*

CARL H. LYDIARD, *Park Superintendent*

JOHN P. GAFFNEY, *Park Superintendent*

J. ANDREW WALSH, *Park Superintendent*

*Division of Fisheries and Game*PATRICK W. HEHIR, *Director*,CARL G. BATES, *Chief Conservation Officer* JOSEPH A. HAGAR, *Ornithologist*
(Complete organization and report in Public Document No. 25)*Bureau of Marine Fisheries*BERNARD J. SHERIDAN, *Supervisor*EARNEST W. BARNES, *Biologist**Fish Inspection*WILLIAM D. DESMOND, *State Inspector of Fish*

(Complete organization and report in Public Document No. 25)

In line with the program instituted last year every effort has been made to broaden the activities of the department so far as possible and to rearrange the departmental system to the end that greater service be available to the citizens of and visitors to the Commonwealth, having in mind that this must be accomplished without substantial increase in the budget.

A marked increase in the use of the recreational facilities in the state forests, parks and reservations under the jurisdiction of the department was noted during the fiscal year.

It was pointed out in the report of last year that the increasing interest in the recreational facilities in our state forests had been so extensive that in many instances we were unable, with a limited personnel, to properly care for those desiring to use the areas.

Parking facilities proved inadequate, additions were provided and at the close of the year we find that we are faced with the problem of supplying increased areas if the vast numbers who have demonstrated their desire to use the fireplaces, tables, bathing beaches and other attractions are to be accommodated.

Together with the added burden placed upon the personnel directly in charge of the recreational areas we find all branches of the service equally taxed. The State Fire Warden must readjust his men and equipment to keep pace with the situation caused by the hurricane of September 21; the Division of Fisheries and Game who are concerned with the stocking of the state forest ponds and streams must work unceasingly to meet the needs of the anglers; likewise the land planning unit established in the department last year is constantly called upon to give its assistance to the increasing departmental demands.

Every possible assistance has been extended to the Commonwealth through the department by the United States Forest Service and the National Park Service in our forestry and recreation program without which cooperation much less would have been accomplished.

On July 18, 1938 CCC camp SP-26 was transferred from Upton to the Salisbury Beach Reservation and its excellent equipment and trained personnel will be of valuable assistance in the construction of the reservation. Complete details of its activities will be presented later in this report.

No appropriation for the acquisition of forest land was available during the fiscal year; however as was suggested in our report of last year, provision should be made for a reasonable program of acquisition of private holdings within many of the state forest areas.

During the year instruction in law enforcement has been given all conservation officers employed at the state forests and reservations. In an endeavor to secure proper enforcement of departmental regulations it is planned to continue this instruction at regular intervals throughout the coming year.

Life guard services were continued at Berry Pond, Harold Parker State Forest, and guards were stationed at Beaman Pond on the Otter River State Forest; Laurel Lake on Erving State Forest and at the Myles Standish State Forest.

In this connection it is significant that at Beaman Pond three rescues were effected during the first week that life guard service was available.

DEPARTMENTAL ADMINISTRATION

At the beginning of the year the position of radio technician was added to the service of the State Fire Warden. Mr. Earl Whiddon was selected to fill this position and his entire time is devoted to the construction and installation of radio in the observation towers and patrol cars of the department.

On March 24, 1938 Abraham L. Estes was selected from the Civil Service list and appointed as District Fire Warden and assigned to District No. 8.

The accidental death of District Fire Warden Lincoln Crowell on April 4, 1938 left a vacancy in District No. 1. This position was filled by the transfer of District Warden Estes from District No. 8.

On April 26, Mr. Charles J. Glavin was selected and appointed from the Civil Service list to fill the position of District Fire Warden in District No. 8.

Mr. J. Andrew Walsh who qualified under a competitive Civil Service examination was appointed Park Superintendent on June 1 and assigned as superintendent of the Salisbury Beach Reservation, succeeding Superintendent Carl H. Lydiard who was transferred to the Robinson State Park at Agawam.

Superintendent John P. Gaffney, formerly assigned to the Robinson State Park, was transferred to the Roland E. Nickerson Park at Brewster.

HURRICANE AND FLOOD OF SEPTEMBER 21, 1938

The combined hurricane and flood of September 21 has been stated by a writer in the "Scientific Monthly" to be not only the worst catastrophe of the kind to come to the New England section, but, measured in the destruction of life and property values, the worst that ever occurred anywhere in the United States at any time in its recorded history.

The unprecedented nature and severity of the hurricane and flood left problems of staggering proportions to be immediately considered, the two major ones with relation to our woodland areas being those of forest fires and timber salvage.

It was realized that both problems being of an interlocking nature and affecting all of the New England States to a greater or lesser degree, constituted a situation requiring action by the National Government and the needed assistance by the Government was put into effect as soon as possible through several of its agencies under general control of the U. S. Forest Service.

While this assistance, through the use of CCC labor to a certain extent, helped out our state forest conditions shortly after the storm in clearing roads of debris, the governmental activities did not materially involve properties of the Commonwealth such as our state forests, most of which were affected to some extent by either or both hurricane and flood, several of them to a major degree.

The destruction in our state forests to hundreds of acres of trees, many miles of roads, bridges, fire towers and water holes created a situation that found the department without sufficient funds, equipment and personnel to cope with it and, coming at a time when fall fires could create a real catastrophe, it seemed imperative that the necessary forces of men and equipment be put to work on the worst affected areas. The only procedure possible appeared to be to secure the services of some large contracting company willing to undertake the amount of work involved with the understanding that payment for all costs must be deferred for at least several weeks. But one company offered to accept this proposition, namely, the Benjamin Foster Company of Philadelphia.

Time and the nature of the work needing attention did not permit the company to make a study of each area and determine a cost for each job to be done and, accordingly, it would agree only to making a contract on a cost-plus basis.

This company began operations on October 5 and by October 31 had 2,200 men and the needed equipment on 30 of our state forests as follows:

Name of Forest

Foxborough	Templeton
Leominster	Wendell
Carlisle	Erving
Marlborough	Colrain
Sudbury	D.A.R.
Willard Brook	Mohawk Trail
Townsend	Savoy Mountain
Spencer	Windsor
West Brookfield	October Mountain
Oakham	Beartown
Ashburnham	Otis
Federation of Women's Clubs	Sandisfield
Hubbardston	Tolland
Mount Grace	Granville
Royalston	Otter River

After November 5, when ground and woods conditions seemed to permit of reducing the tension caused by possible serious forest fires, the number of men and amount of equipment was gradually reduced and the work confined mainly to the state forests west of the Connecticut River where flood water action made heavy equipment needed to repair the damage done and this kind of work will continue for several weeks in order to have ready by spring the roads into and through these forests.

The Foster Company has accomplished in a comparatively short period of time a large amount of essential work and as a result of a considerable part of it, relating to streams, roads, bridges and culverts, future flood damage will not again occur.

On the state forests east of the Connecticut River where down timber and bad slash conditions prevail, crews employed and supervised by the department will, it is expected, have the several areas in a reasonably safe condition by spring.

EXHIBITS AND EDUCATION

The outstanding exhibition work of the year was the reproduction of a typical state forest presented at the Spring Flower Show of the Massachusetts Horticultural Society in Mechanics Building in March. This exhibit, which was the predominating attraction of the show, presented a forest scene in all its natural beauty, including a reproduction of Sanderson Brook Falls in the Chester State Forest. In addition to winning the conservation prize, it was awarded the prize as the outstanding feature of the show and received favorable comment from all those who were privileged to visit the exhibit.

Exhibits were also placed at the New England Sportsmen's Show in Boston during February and at the State Building at the Brockton Fair during September, each showing some of the recreational activities of the department.

At the Eastern States Exposition new features were introduced in the exhibition of a model of the proposed development of the Salisbury Beach Reservation, giving in artistic detail all of the features which will eventually greet the public at this reservation.

As a companion exhibit of inland recreation, a model was shown of the contemplated development of the Robinson State Park at Agawam and both of these exhibits were a source of great interest during the brief time the exposition was open, as the program was curtailed due to flood danger.

An exhibit was put on at The Ocean House, Swampscott for the Conservation Department of the Massachusetts State Federation of Women's Clubs by Mr. Hans and Mr. Stone. It showed the difference between a burnt-over, cut-over hillside and the beautiful, natural forest, with running water. It attracted much

attention. Mr. Donovan, of the gypsy moth staff, was on hand to answer questions on the moth work.

Full supply of pamphlets were available there.

The department continued the publication of the "Massachusetts Conservation Bulletin" which included new features of general interest, and during the year many technical subjects were discussed by specialists in each field. The output of this publication was increased one hundred per cent to meet the demand from readers throughout Massachusetts and beyond its borders.

In January, the department presented a conservation program as a feature of the Union Agricultural Meeting in Worcester, at which time the following speakers were received by an appreciative audience:

Commissioner Ernest J. Dean
 Dr. Benjamin Leavitt, Assistant Biologist,
 Division of Fisheries and Game
 Chief Forester, Harold O. Cook
 Raymond J. Kenney, In Charge Recreation
 Joseph A. Hagar, State Ornithologist
 A. F. Burgess, U. S. Bureau of Entomology
 Charles L. Woodman, District Fire Warden

From time to time several members of the staff presented talks and lectures, both by personal appearance and on the radio, and thus increased public knowledge and interest in the need and purposes of a sound conservation program. (Many of the important talks will be found given verbatim in the various issues of the Bulletin.)

The number of lectures given by the staff during the year was 93.

FORESTS PRODUCTS INDUSTRIES SURVEY

The program of making a survey of the forest products industries was completed in five counties of the state, and directories of the industries in Berkshire, Franklin, Hampden, Hampshire and Worcester Counties have been published and distributed.

These directories covered the important wood-using industries of each county together with sawmills and timber operators as well as lumber and fuel-wood dealers.

Much valuable information as to the scope of the forest products used in each industry or handled by each dealer has been included and the directories have proven very popular among those engaged directly or indirectly in the handling of forest products, and have been widely used. They have been of particular value since the recent hurricane and it is fortunate that the survey had been completed throughout the greater part of the area affected by the hurricane.

WORKS PROGRESS ADMINISTRATION PROJECTS ON STATE FORESTS, ETC.

During the fiscal year WPA projects, totaling \$213,539.80 of Federal funds, on areas under the control and direction of the department have been submitted, were approved, and are now operating. Other projects have been prepared for submission for Federal approval.

Forest road construction, fire lanes, water-hole construction, planting operations, timber stand improvement, construction of bridges, culverts, tool houses, garages, and a large centrally situated maintenance building are included in the several works projects.

In that the principal contributions of the sponsor, with but few exceptions, were largely materials and equipment on hand, together with other contributions which were made by the towns and cities where projects were situated or located nearby, the actual expenditure of funds by this department was relatively small.

Such contribution and participation by the towns and cities as previously referred to was made possible by reason of the employment benefits which these towns and cities received, which aided them in reducing welfare administrative costs.

LAND ACQUISITION

There has been but a small amount of land added to our state forest and state park areas during the past year owing to lack of an appropriation for continuing purchases to any material extent and there are no gifts of land to be reported. The few acquisitions made by purchase or exchange all relate to the state forests.

The hurricane of September has, of course, made available a large amount of forest property suitable for state forest purposes that could be acquired under the State Forest Act if funds were appropriated for continuing acquisitions.

There has been only one department survey crew engaged on boundary survey work and this crew but a part of the time, owing to other work requiring the services of the men. There should be, during the fiscal year 1939, much more boundary surveying done in order that our property plans be kept more up to date and available for our field forces.

There has been a considerable amount of drafting done on new plans for Salisbury Beach and other areas and the damage caused by the hurricane to several of the forest fire observation towers has made necessary the construction of new fire tower table maps.

Land Acquired for State Forests, Fiscal Year 1938

<i>Forest</i>	<i>Location</i>	<i>No. of Acres</i>
Douglas	Douglas	63.75
East Mountain	Gt. Barrington, Sheffield and New Marlborough	28.5
Erving	Erving	10.
Freetown-Fall River	Fall River	125.58
Harold Parker	North Andover	3.91
Lowell-Dracut	Lowell and Dracut	11.942
Pittsfield	Pittsfield	4.
Shawme-Crowell	Bourne	5.
Sudbury	Sudbury	10.78
Wrentham	Wrentham	24.48
		<hr/> 287.942

WILD LIFE IN STATE FORESTS

During the year dating from November 30, 1937 to December 1, 1938, work on the wildlife areas was continued in conformance with the state policy. The Willowdale Wildlife Area located in Ipswich and Topsfield was mapped, a work plan drawn, and development work has been started.

Development work at Brimfield was halted because of the closing of the CCC camp and work was temporarily held up in the other forests, Beartown excepted, because of the urgency of clearing and construction work necessitated by the hurricane and flood of September 21. Development work will be continued on these plots as soon as labor can be released from storm damage repair work. However, much ultimate good should come to wild life in areas where tall timber was blown down, thus removing the canopy which shuts out all sunlight and retards the low sprout growth so necessary to our birds and mammals. More immediately, the green tops and slash provide protection from inclement weather, and escape cover from natural enemies as well as food. As these felled trees decay, den and nesting sites will be provided, and increased humus added to the soil through decay.

Under the terms of the Pittman-Robertson Act a project has been submitted for complete development of the Wrentham Area, and as federal funds are released other areas now established will be mapped and developed, particularly for game species. A further account of activities under the Pittman-Robertson Act will be found in the report of the Division of Fisheries and Game.

RECREATION

During the period covered by this report it has become increasingly evident that there is a widespread demand for year-round outdoor recreation such as is afforded on the state forests and state parks, and this interest is evident throughout each season of the year.

Unfortunately the snow conditions during the past winter were such that full advantage could not be taken of the winter sports facilities provided on the state forests in the western counties, but during the limited snow period the popularity of these areas was clearly indicated.

The opening of the fishing season in the state forests during the spring months attracted a large number of anglers and many fine catches were reported, particularly on the ponds which have been specially stocked for the fishermen.

The summer season found increased facilities, not only throughout the areas previously used, but in the establishment of new recreation areas at the Douglas State Forest, the Brimfield State Forest, the Pittsfield State Forest, the Leominster State Forest and the Upton State Forest.

Among the increased recreational facilities may be listed such new developments as the Damon Pond bathing beach and bathhouse at the Willard Brook State Forest, a new bathhouse on the shores of Wallum Lake at the Douglas State Forest, a bathing beach and bathhouse on Dean Pond at the Brimfield State Forest, a new bathhouse on Flax Pond at the Nickerson State Park, and other similar additions to the recreational system.

New rules and regulations looking toward a better enjoyment of the recreation areas were adopted and put into effect. The officers in charge of the administration of the picnic areas were uniformed and trained in law enforcement work and public relations and, as a result, it was possible to handle the increasing numbers on many of the recreation areas without any unreasonable curtailment of the recreational pursuits.

Fees collected for the enjoyment of picnic areas, tenting areas, cabins and the like amounted to \$9,672.53, and this revenue was affected unfavorably by several rainy week-ends during the summer and by the closing of the forests late in September due to the forest fire danger.

The department has cooperated with the Massachusetts Development and Industrial Commission and with the Massachusetts Planning Board in compiling information intended to develop the recreation industry throughout the state, and in addition to this cooperative work, the department published a recreation directory which was widely distributed in Massachusetts and sent to applicants in many of the states throughout the Union.

FOREST NURSERIES

Approximately 2,500,000 4-year old trees from the department nurseries were planted in the Commonwealth this year, 1,000,000 being planted on the state forests.

Our nursery stock is propagated at the Amherst State Nursery and distributed from transplant nurseries located at Clinton, Bridgewater, Amherst, Erving, Winchendon, Sandwich and Plymouth.

GYPSY MOTH SUPPRESSION

Notwithstanding the abundance of rain during the spraying season, the results obtained were very satisfactory.

Defoliation records obtained during the month of July by the division superintendents cooperating with the United States Department of Agriculture, Bureau of Plant Pest Control at Greenfield, indicate approximately 154,162 acres of woodland defoliated from 25% to 100%. This was a decrease from the previous year's record of 239,451 acres.

Towns between the Connecticut River and Berkshire County line and the Cape district from Bourne to Provincetown have the largest number of acres showing defoliation.

The complete defoliation by elm leaf beetle of many trees on unsprayed private holdings was in evidence in all parts of the Commonwealth.

The Oriental moth was abundant in Chelsea, Winthrop, Revere and Boston. Large oak trees at Oak Island, Revere were completely defoliated by this insect.

Much damage was done by the forest tent caterpillar throughout Berkshire County, it feeding principally on rock maple, oak, elm and ash trees. The Department of Agriculture through the 4-H Clubs collected and destroyed 1,323,326 tent caterpillar egg clusters in 213 towns. Two million one hundred fourteen thousand six hundred sixty-two webs of the tent caterpillar were creosoted by Works Progress Administration employees operating on moth projects. A substantial reduction in this pest should result from the above-mentioned work, as each egg cluster and web destroyed contains an average of 350 caterpillars.

A well attended meeting of local moth superintendents was held in conjunction with the Massachusetts Tree Wardens and Foresters Association on February 3 at the Hotel Statler at which Commissioner Dean was delegated to represent His Excellency the Governor.

Mr. A. F. Burgess of the United States Bureau of Entomology, together with Mr. C. E. Behre, Director of Northeastern Forest Experiment Station, New Haven, Connecticut, presented papers and reports pertinent to the subject of gypsy moth control, which not only were instructive, but were much appreciated.

In connection with the department exhibit at the Flower Show, a small space was allotted for a moth control exhibit. Specimens of gypsy and brown-tail moths, tent caterpillars and mounted specimens of some of the more important parasites were shown. Specimens of white pine, spruce and hemlock trees defoliated last July by gypsy moth were exhibited, and much surprise was expressed by those attending that the gypsy moth would feed on and kill coniferous trees. Much interest was shown in the exhibit and many questions were asked regarding the best methods of controlling gypsy and brown-tail moths, tent caterpillars and other insects.

This year has witnessed an increased interest in moth control work by the various municipalities as indicated by the increase of their moth appropriation as compared to last year.

Further details of the moth suppression activities will be given later in the report.

REPAIR SHOP

During the early part of the year the principal work was a thorough overhauling of the trucks operated by the Divisions of Forestry and Parks, and as a result of this all of the equipment was able to operate efficiently during the year without any replacements.

After this work was completed, the full facilities of the repair shop were devoted to the repairing and overhauling of the gypsy moth sprayers, both those owned by the department and those operated by towns which are reimbursed from department funds, with the result that the majority of the towns which the department reimburses are now equipped with first-class spraying outfits.

DEPARTMENTAL AND RECESS INVESTIGATIONS

Chapter 9 of the Resolves of 1938 provided for a study of the fish and game laws by the department. The Commissioner assigned to this work Patrick W. Hehir, Director, Carl G. Bates, Chief Conservation Officer, and Joseph A. Hagar, Ornithologist.

Chapter 17 of the Resolves of 1938 instructed the Department to make a study relative to the acquisition by the Commonwealth of Blaney Meadows and adjacent territory in the Cities of Peabody, Salem and Lynn and the development there for state reservation purposes.

Foresters F. L. Haynes and F. G. Hills were assigned to make the study.

Chapter 22 Resolves of 1938 provided for an investigation by the Commissioner of Conservation relative to the Pocasset branch of the Wampanoag tribe of Indians and the need for establishing a State Reservation for the benefit of the descendants of Chief Massasoit and the tribe of Indians who roamed eastern Massachusetts during the days when it was a colony of the Crown.

Commissioner Dean and Forester Frank L. Haynes assumed the investigation work connected with this Resolve.

Chapter 23 Resolves of 1938 provided for an investigation by the Department of Conservation relative to providing for the propagation of lobsters by the Commonwealth.

By this Resolve the Department was authorized and directed to investigate the advisability, feasibility and cost of propagation of lobsters by the Commonwealth and to consider the effects such undertaking by the Commonwealth would have on the lobster industry.

Commissioner Dean assigned Earnest W. Barnes, Fish and Game Biologist and nationally known as an expert on lobster propagation, together with William D. Desmond, State Inspector of Fish, to make this study.

Chapter 26 Resolves of 1938 provided for the investigation and study by a special unpaid commission of the problems affecting unemployed youth in the Commonwealth and the advisability of establishing conservation camps for the relief of unemployment and for the improvement of state land and properties.

The Commissioner of Conservation, the Adjutant General, the Commissioner of Public Welfare, the Justice of the Boston Juvenile Court, the Secretary of the Massachusetts Branch of the American Federation of Labor together with one member of the Senate and three members of the House of Representatives comprised the commission.

Chapter 32 Resolves of 1938 provided for a special commission to investigate and study the laws relative to the marine fisheries of the Commonwealth, for the purpose and object of revising and making them uniform in all parts of the Commonwealth and its coastal waters.

Particular reference was made to the areas of coastal waters in which seines, trawls, drag nets and gear of every nature may be used, also to the penalties now provided for violations of said laws.

This Resolve further contemplates such alterations and revisions in present laws affecting marine fisheries as will preserve, conserve and protect the spawning and feeding grounds of fish in coastal waters to the end that the supply of fish be maintained and the fishing industry of the Commonwealth preserved.

The Commissioner assigned Chief Coastal Warden Howard S. Willard to represent the department on this commission.

CIVILIAN CONSERVATION CORPS IN MASSACHUSETTS
U. S. FOREST SERVICE

Twelve U. S. Forest Service camps are now actively engaged in conservation work in Massachusetts. This total discloses a loss of camps over 1937 but it does

not follow that the enthusiasm with which the corps carries out its work has been dampened.

In common with other years carefully planned and supervised silvicultural treatments were given to several thousand acres of forest land. Through the cooperative efforts of all agencies concerned, policies for treatment, especially objectives toward which to work, have been developed, revised, accepted and put into operation. By its very nature forestry is a science requiring years of patient and persistent effort before and if tangible results are obtained. In order that the greatest good may accrue to our forest areas, it is necessary that these fundamental principles be determined, decided upon, and carefully and earnestly applied. Though this process is necessarily slow and one of technical selection and rejection of data, opinions, and facts, progress has been made. The result is a policy statement under which CCC silvicultural work is carried out with increased efficiency and greater benefit to timber stands.

Because of a high concentration of population in our state it is natural that the enlargement and creation of recreational areas should be an important part of CCC work. The extent to which these areas have been used by the public gives adequate proof of the fact that we have not yet anywhere near the facilities required. Nearly all of our areas should be enlarged and many more new areas must be located and developed if we are to meet the public demand.

During the year just closed many improvements were made to the recreational facilities at the Harold Parker State Forest. Additional fireplaces were installed, a stone and timber pavilion was constructed, and other work done to enable the area to better accommodate the increasing number of visitors.

An addition was made to our bathhouse at Laurel Lake on the Erving State Forest and the parking area was enlarged. Likewise the facilities at Wallum Lake on the Douglas State Forest were increased by the construction of additional fireplaces, a parking area, and sanitary accommodations. A stone and timber pavilion is under construction and will be completed before the 1939 season opens.

Ski trails have become an important asset in any recreational planning and those in existence have been improved and others added where funds permitted and the demand was well substantiated.

During the latter part of May the recreational center was dedicated at the Willard Brook State Forest including a bathhouse, latrines, parking area, and a bridge and dam at Damon Pond.

In July a five-room headquarters dwelling was completed and turned over to the state, on the Spencer State Forest. The construction of this building and four others located on the Savoy, Chester, Douglas, and Otter River State Forests initiates a new chapter in CCC projects. At both Spencer and Savoy a year-round dwelling has been provided for Department of Conservation supervisors. At the Douglas, Chester, and Otter River State Forests provision has been made for seasonal occupancy by Department of Conservation employees or recreational supervisors. Each of the seasonal quarters is complete with sleeping accommodations and office and a larger room with a fireplace.

As in other years the number of fireplaces on recreational areas was increased considerably and notably at the Willard Brook and Harold Parker Forests.

Much stress continues to be laid on the construction of a network of suitable roads. Before initiating work on any of these projects a master plan prepared in cooperation with the Department of Conservation is consulted and actual work is confined to those forests needing this protection the most. In this manner several additional miles of roads were constructed in order to further round out a planned network of vital roads, giving first attention to the most important areas. A moderate amount of maintenance work was also undertaken on several miles of roads and as a result each state forest is now easily accessible to the public for recreational purposes and for administrative and forest fire protection purposes by the state.

Probably the largest single undertaking by the CCC during 1938 was the beginning of the construction of the Middlefield Dam at Middlefield, Massachusetts. This project is distinctly a cooperative undertaking between the Department of Conservation and the U. S. Forest Service, CCC. Both agencies have set aside definite amounts of money for the work and are cooperating very closely to assure the completion of the project not later than the summer of 1940. Some idea of the scope of the work can be gained by the following figures extracted from the plans and specifications:

Earth excavation	10,000 cubic yards
Rock excavation	1,200 " "
Earth fill	45,000 " "
Riprap	4,000 square "
Concrete	1,900 cubic "
Sheet piling	11,000 linear feet

When completed a pond of over 100 acres will be created and will become part of one of the largest recreational centers and developments in the western part of Massachusetts.

In order to make certain that the work will be completed it has been necessary to assign practically the entire complement of the Chester camp to this work. Extra trucks, power shovels, tractors, and other specialized heavy equipment for this construction have been purchased or obtained through transfer for the project and specialized technical employees have been transferred to the job. Work will continue uninterrupted until the project is complete.

Wildlife management continues to be a small but vitally important part of CCC activities on a few of the state areas, notably the Beartown, Willard Brook, Northfield, and Willowdale State Forests. Experiments on the rearing and establishment of wild turkey continues at Beartown and in addition experiments on chukar partridges, native of India, were initiated. Excellent results were obtained which can be substantiated by the fact that every chick hatched was reared with the exception of one killed by a skunk.

In the other state forests where wildlife work was carried on, attention is given chiefly to encouraging native birds and animals in their customary surroundings. Game census is taken periodically and the figures obtained confirm the theories that under proper management and encouragement native wild life will respond and show a satisfactory increase.

Perhaps the most spectacular and important work performed by the CCC during the past year was its invaluable contributions during and immediately after the hurricane of September 21, 1938. Since the CCC is a unit noted for its discipline and since it had the equipment and men necessary to render immediate assistance the corps played an extremely vital part in the emergency work required. Main roads were opened, main arteries of communication were re-established, rescues were performed, and temporary bridges over the more important roads were constructed. After completing this first work the entire efforts of the CCC within the storm area were devoted to the reduction of the tremendous forest fire hazard. This work was quickly headed up by the U. S. Forest Service with the main office in Boston, Massachusetts. All CCC camps, both National Park and U. S. Forest Service, within the hurricane area were directed to devote their entire efforts to the abatement of the serious forest fire menace left by the storm. This responsibility was accepted eagerly and willingly by the CCC and commendable progress has been made. We are assured that the efforts of the CCC will be continued along forest fire hazard lines until all possibilities of serious conflagrations have been eliminated. The CCC and WPA are both engaged on this work and are under the immediate jurisdiction of the U. S. Forest Service whose function it is to determine policy and to assign priorities of projects throughout the area affected. Before spring of 1939 a coordinated

plan of forest fire protection will be worked out, using all available agencies in the state. By that time we believe that the fire hazard reduction field work will be completed to such an extent that with the active cooperation of all the agencies previously mentioned the danger of a forest fire of any major or serious proportions will be eliminated and all forest fires which might occur can be extinguished with a minimum amount of damage.

We should like to again commend the CCC for the excellent work they have done in restoring and preserving our natural resources and to once more inform the public of the important work the CCC does in the rehabilitation of American youth. Many letters have been brought to our attention attesting to the improvement in the enrollees' health and the benefits derived from their educational training. Many instances have also been noted of an enrollee accepting a position in commercial life at a wage much above that of young men of similar age and surely a large part of this advantage is due to the excellent training given the enrollee in the CCC camps.

With these benefits in mind, we earnestly recommend the continuance of the CCC as a conservation unit and look forward to its continuance in our state for many years to come.

Forest Service Camps

Camp No.	Superintendent	Forest	Post Office Address
S-60	Raymond White	Brimfield	Palmer
S-63	Bernard M. Dunn	Winchendon	Baldwinsville
S-64	Edwin O. Edenberg	Chester	Chester
S-66	Thos E. Battles	Beartown	South Lee
S-94	Jacob Sleet	Savoy Mountain	North Adams
S-76	Richard F. Smith	Harold Parker	North Reading
P-79	Earl J. Hines	Greenfield	Greenfield
P-80	Thomas J. Belton	Westfield	Westfield
S-82	Claude B. Davidson	Townsend	West Townsend
S-85	F. H. Harris	Douglas	East Douglas
S-86	Neil F. McDonald	Warwick	Warwick
S-93	William H. Wentworth	October Mountain	Becket

CIVILIAN CONSERVATION CORPS NATIONAL PARK SERVICE

The cooperation of the United States Department of the Interior, National Park Service continued to carry into vigorous action the plans for the development and restoration of many state areas. The closing of two camps which was anticipated at the close of last year, occurred on December 15, 1937 when Camp SP-13 at Leominster and Camp SP-28 at October Mountain closed. Needless to say, the loss of these two camps was keenly felt. However, advance notice of the closing was a great aid toward completing many projects which were under construction.

With the establishment of State Architectural Landscape Engineering Supervision, the National Park Service assigned three of their technically trained employees to the Conservation Department to assist in planning and preparation of plans. These men were transferred from the National Park Service Central Design Office located at the Salem National Historical Monument. This change facilitated job approvals and gave greater latitude for approvals by National Park Service field representatives and served to decentralize planning as formerly handled.

As in the past, National Park Service principles of development have been applied to areas on which National Park Service camps have been cooperating. The primary principle, preservation of nature in its natural state, has been applied to restore areas for our use and preserve them for the use of those who come after us. This means that many changes in area entrances were necessary to facilitate administration. Access to the parks was carefully planned to cut administration costs and to eliminate unsightly networks of entrance roads that served little purpose and detracted from the beauties of the area.

Without forest cover, the parks would have little to recommend them and to preserve this valuable cover, disease and pest control stood high in the order of priority of work to be done. Fire, man's great friend, unleashed becomes his greatest enemy. Fire roads and trails, screened to make their necessary intrusion on nature unobtrusive, were constructed to facilitate the movement of men and equipment in case of fire. These roads and trails are for emergency use only and not intended for public travel.

Intensive use of any area is bound to destroy ground cover. Because of this, intensive use areas were selected in a way to afford the park visitor the enjoyment and comfort he could reasonably expect yet to intrude as little as possible on nature's beauty. Judicious selection and adequate screening is gradually accomplishing a restoration of natural environments.

Nature trails, hiking trails, bridle trails, ski trails, roads, man-made lakes and ponds and buildings have been designed to conform with local surroundings and to blend with natural conditions. National Park Service cooperation is lending to the state areas an atmosphere of National Park development, the esthetic value of which is unquestionable and will be strongly felt when nature has redeveloped, with man's aid, her abused resources.

The commercial value of such development of state owned areas is unmishtakable. Recreational expenditures are reaching such proportions that recreation is making strong bids to become the leading industry of Massachusetts. Again the National Park Service has stepped in with a recreational survey. Already figures are available showing the extent of use of areas and the geographical source of visitors. Some figures are available to indicate the effect that application of service charges have on usage. This survey will serve to guide future area planning. And having completed the areas, the Travel Bureau, sponsored by the National Park Service and maintaining offices in New York City, will list them as other offerings for travel opportunity. This new bureau will serve as another source for the dissemination of information on recreational opportunities in Massachusetts.

The opening of the new calendar year, 1938, brought another change in camps. Camp SP-12 was moved to a new location on the Savoy Mountain Forest and designated as Camp SP-29. This change facilitated work on the Mohawk Trail State Forest from which Camp SP-6 had moved.

In July, the Upton Camp SP-25 was transferred to Salisbury Beach Camp SP-26. This change will materially assist in bringing nearer to completion the Salisbury Beach area. This area, when completed, will give Massachusetts one of the finest publicly owned beaches on the Atlantic seaboard. Closing of the Upton Camp left an uncompleted dam and road. This uncompleted work was handled by the establishment of a side camp with power equipment and was brought to completion in October.

At Camp Smith in Waterbury, Vermont, the flood control dams were completed and the camp closed. This closing was good fortune for Massachusetts. An entire veteran company was moved into October Mountain Camp SP-28. Too much cannot be said on the developments made by veteran companies. The quantity and quality of the work of these veterans is unsurpassed. This change brought the total number of veteran companies on state areas to three. The National Park Service also made generous contributions of surplus light equipment from Camp Smith to the October Mountain Camp and heavy equipment to the Salisbury Beach Camp.

During and following the flood and hurricane disaster the Federal Camps came forward to render aid to the stricken and assistance in the restoration. At this time additional National Park Service funds are available. Flood and hurricane rehabilitation assumes priority over all other work. Camp SP-23 was to be moved before the close of this fiscal year. This movement was delayed by unforeseen conditions at the new area, Warwick Camp SP-30. The transfer will

take place, undoubtedly, in the first week of the coming fiscal year and will place a full company, for rehabilitation work, in the midst of one of the worst of the hurricane-torn areas.

The scope of the activities of the National Park Service and their cooperation with this department, which prevailed throughout the past year, more than justifies the popular conception of the United States Department of the Interior as an important factor in the development of state parks and other recreational areas.

*Active National Park Camps
Dec. 1, 1937 to Nov. 30, 1938*

Camp No.	Location	Mailing Address	Abandoned
SP-7	Greylock Reservation	Pittsfield	
SP-12	Savoy Mountain State Forest	Adams	See note 1
SP-13	Leominster State Forest	Fitchburg	Dec. 15, 1937
SP-17	Breakheart Reservation	Melrose	
SP-18	Mt. Tom Reservation	Holyoke	
SP-19	Nickerson State Park	E. Brewster	
SP-23	Pittsfield State Forest	Pittsfield	
SP-24	Robinson State Park	Feeding Hills	
SP-25	Upton State Forest	Westborough	July 18, 1938
SP-26	Salisbury Beach	Salisbury	See note 2
SP-28	October Mountain	Lenox	See note 3
SP-28	State Forest		
SP-29	Savoy Mountain State Forest	Adams	See note 1

Note 1. On January 7, 1938 camp abandoned and moved to a new location on Savoy area and designated SP-29.

Note 2. On July 18, 1938 Upton Camp SP-25 moved to Salisbury Beach SP-26.

Note 3. On December 15, 1937 SP-28 was abandoned. It was reopened on November 15, 1938.

PART II

ANNUAL REPORT OF THE DIVISION OF FORESTRY

The thirty-fifth report of the State Forester is herewith submitted. This report covers the development and maintenance of the state forests as carried on by both state and the CCC camps, operation of state nurseries, the reports of the State Fire Warden, Chief Moth Suppressor and other activities.

Financial statements may be found in the appendix.

STATE FORESTS

During the past year the development and maintenance of our state forests up to the date of the September hurricane was proceeding in normal fashion, most of the development work being carried on by the 14 CCC camps, and the maintenance by our own employees. During the year two changes took place in the CCC set-up. The Brimfield camp was abandoned altogether and the camp at Upton Forest was removed to Salisbury Beach.

The September hurricane and flood worked serious damage. Those forests in the central part of the state in Worcester, Franklin, Hampshire, Hampden and Middlesex Counties were especially badly hit. West of the Connecticut River the wind did little damage to standing timber, but very serious damage to our roads, bridges and dams resulted from the extremely heavy rainfall which accompanied the hurricane. The forests in Central Massachusetts suffered some flood damage as well.

Following the hurricane all the CCC camps east of the Connecticut River were put to work relieving the fire hazard situation on private lands and three abandoned camps were occupied by companies that moved in from outside.

This made it necessary for this department to shoulder the salvage and repair work on state forests with its own men. The following accounts of the work on various forests tell of the work accomplished up to December 1.

Ashburnham State Forest

The two-man crew spent the winter and early spring in release cutting plantations on the Hawkins and Rockwood lots. The summer was spent in brushing out forest roads making some minor road repairs and clearing boundary lines. A portion of this work was done in the Hubbardston Forest. Pine weevil control work was carried out in younger plantations by cutting and burning infested tips. This forest has a large area of pine plantations varying in age from 5 to 25 years and we were congratulating ourselves on the excellent condition of these plantations until the hurricane of September which blew down thousands of trees in the older plantations. A crew of the Benjamin Foster Company cleared up some of the fire hazard near the roads but there is still an immense amount of this work yet to be done, far more than two men can hope to accomplish.

Barre State Forest

During the spring a WPA crew carried on a release cutting operation taking out poplar and gray birch to liberate the planted pines on about 60 acres. They also constructed a graveled woods road traversing the lot and a water hole designed to hold 15,000 gallons. This lot did not suffer much as a result of the hurricane but the Harding Hill lot had extensive blow downs.

Bash Bish State Forest

The crew from the Beartown State Forest maintained this area bi-weekly throughout the summer recreation season. Two tables and benches were placed at a point near the falls, and rubbish and toilets were kept cleaned up. Foot trails were mowed in July. A large number of visitors, mostly from New York State, came to see these beautiful falls.

Beartown State Forest

The state crew consisting of the forest supervisor and two men have had to spend most of their time in general maintenance of recreational facilities, both winter and summer, on not only this forest but Tolland, Otis, Sandisfield, East Mountain, Campbell Falls, and Bash Bish State Forests. Another bad winter season saw the number of skiers cut to about 2500 on the Beartown trails. Spring and summer fishing was only fair due to small size of fish in Benedict Pond this year, however another year should see excellent pond fishing at Benedict Pond. The picnic and camping this year was much less, due to rainy weather. The upland bird season saw more pheasant than for a number of years, with the cottontail rabbits in extremely large numbers. The deer season ran about as usual with about 300 hunters getting about 300 deer.

As usual the crew with an additional man mowed all trails and roadsides, which approximates 20 miles of mowing, 6 to 50 feet wide.

One acre of improvement cutting was done, and the forest inventory field work for this forest was completed. Permanent tie posts for the forest inventory were made during poor weather.

Two new sheds were built at headquarters for the storage of wood and lumber, one 18 x 20 feet and the other 16 x 50 feet. The sewage system was changed and a septic tank built at headquarters.

The crew was on fire duty during fire seasons and attended one fire of 10 acres in Sandisfield. They also trained the Beartown CCC crews in fire fighting.

Patrol work was done against illegal hunting and Christmas tree cutting with the conviction of one case of stealing Christmas trees.

During and after the hurricane the crew tried to save road damage and did some temporary clean-up and repair work afterwards.

The Benjamin Foster Company started repair work on this forest in November. Quite a number of larger culverts were installed in place of culverts that had

proved too small on Beartown Road. One bridge abutment and combined water hole near Benedict Pond were repaired.

Beartown State Forest

CIVILIAN CONSERVATION WORK, CAMP S-66

Beartown road, the main road through the forest, was re-graveled from South Lee to the CCC camp, a distance of 3.5 miles. Because of the September flood and consequent damage, it became necessary to do much repair work on all forest roads and in some instances to rebuild sections of these roads in whole or in part. Additional culverts were placed on Beartown road, where necessary. Two sharp curves on the south part of this road were eliminated and the road widened.

Benedict Pond road was completed; this is a circuit from Beartown road around Benedict Pond and back to Beartown road. Additional waterholes of 11,000 gallons capacity were constructed on small brooks to provide forest fire protection.

Forest stand improvement work was completed to the extent of 339 acres. This consisted of releasing coniferous stands and liberation and improvement cuttings in hardwoods, and 893 cords of wood were obtained from this project. Seven hundred fifteen acres of *ribes* eradication for the protection of white pine was completed on the forest and abutting private lands. Weevil-infested leaders of white pine and Norway spruce were removed and burned on 98 acres of natural and artificial stands. Field work for forest inventory was completed on 4000 acres. Crews of 30 enrollees each were trained in the use of equipment and methods in forest fire suppression.

Wildlife work consisted principally in planting 28,000 conifers for winter shelter areas and clearing two miles of rides or food strips. These strips are 20 feet wide. One and four-tenths miles of the two miles cleared were planted to clover, soy bean, buckwheat and winter rye. Three and eight-tenths acres of food patches were also planted and cultivated. A total of 21 acres of composition improvement cuttings were made in the wildlife refuge.

Ten miles of grid lines for census purposes were cleared and hub markers were set at intersections. Two new ski trails of 2000 feet and 1000 feet were constructed and the existing open slope was increased to three times its area. Existing trails were improved and seeded to grass to prevent weed growth and erosion. One Adirondack type shelter was built on the Appalachian Trail. Signs and points-of-interest markers were made and placed throughout the forest.

Brimfield State Forest

CIVILIAN CONSERVATION WORK, CAMP S-85

In the middle of June, this camp established a side camp at Brimfield for the purpose of completing certain projects left by Camp S-60 which was closed in May. Four-tenths of a mile of finished sub-grade was completed on Sutcliffe Road.

Excavation for a bridge on this road had been started. Abutments of heavy quarried granite were laid up dry and a heavily reinforced concrete slab floor was completed. The whole job was completed except for the guard rail wall.

Deth Hill Pond Dam was the major project of the side camp. A small amount of concrete work had been done and the whole project had been left in a topsy-turvy condition. The stream bed in front of the spillway was completely ripped. More than three-fourths of the riprap on the bank from the bridge around to the auxiliary spillway was completed and the main spillway of reinforced concrete was completely poured.

The foundation of a large box culvert on the Entrance Road was dug and the footing made.

This camp was cut off from the outside world for several days by unprecedented floods and had very serious experiences in battling to save their construction

projects from flood waters. They were also called upon to aid the town of Brimfield in opening highways after the great hurricane.

Campbell Falls State Forest

The crew from the Beartown State Forest kept this area cleaned up and supplied with wood throughout the summer recreation season. Also trails and parking space were mowed during the summer. A great many people picnicked here at the base of the falls.

Carlisle State Forest

This small reservation of 23 acres is of interest because prior to the hurricane it contained 60 of the largest standing pines in the state. Unfortunately the hurricane leveled about half of these great old trees in addition to hundreds of second growth, but yet timber-size pines. Men working for the Benjamin Foster Company salvaged this down timber, burned the slash, and repaired the road so that conditions are now not too bad in spite of the destruction wrought by wind.

Chester-Blandford State Forest

During the winter the state crew of 4 men thinned out about 30 acres and burned the slash.

During the spring repairs were made to the buildings, tables and rubbish barrels were painted, walks and roads graveled, and a small bridge built. The summer was devoted to the maintenance of the two picnic areas which were used by 15,000 people.

After the hurricane the crew went to work clearing fallen trees from roads and trails on the forest and repairing telephone lines leading to fire towers in that part of the state.

The facilities of this forest were much helped by the construction of an administration building by the boys from CCC Camp S-64 located on this forest.

Chester-Blandford State Forest

CIVILIAN CONSERVATION WORK, CAMP S-64

During the year this camp added $\frac{1}{2}$ mile to the truck trail system on the forest and maintained the remaining 5.3 miles. After the September flood a large amount of work had to be done on the Sanderson Brook road where two bridges were washed out and replaced with temporary structures, while at the same time extensive washouts on this and other roads were repaired.

During the winter some 325 acres of forest stand improvement work was carried out, mainly in the form of a light thinning and liberation cutting. A gypsy moth crew from this camp under the direction of the Federal Bureau of Plant Quarantine scouted 11,000 acres of private land in that section of the state, while during the summer a small crew carried on blister rust control work on 570 acres of state forest land including those sections planted with white pine. Pruning of wild apple trees as a game management project was also carried out.

At Boulder Park the swimming pool was improved by the installation of a cleanout pipe in the dam and a concrete storage tank built to supply water during periods of summer drought.

The camp built an administration building for the use of the Department which includes an office, tool-room and 2-car garage. The razing of the old abandoned CCC Camp at Otis was also completed.

The largest project under the control of this camp is the construction of the Middlefield Dam. This dam, 700 feet in length, will be an earth dam with a core of steel piling and a concrete spillway. It will create a pond of 100 acres. During the past year the old dam of rock and earth was removed and a large

amount of blasting and rock removal work carried on for the foundation of the new dam. More than half of the camp personnel have been engaged on this project.

Colrain State Forest

Following the hurricane the Benjamin Foster Company repaired the town road and the state line road. The French road was not completed when the Benjamin Foster Company discontinued work. A somewhat serious situation exists in regard to this forest because the town roads both in Colrain and Heath leading to this forest are in such bad condition that it is for practical purposes isolated.

Conway State Forest

CIVILIAN CONSERVATION WORK, CAMP SP-29

A crew from this camp covered nearly the entire forest, 2200 acres, in carrying out blister rust control.

D.A.R. State Forest (Goshen)

CIVILIAN CONSERVATION WORK, CAMP SP-29

Considerable improvement was made to the spillway at Highland Lake Dam, loose masonry walls being replaced with concrete construction. The old buildings formerly used by Camp SP-14 were torn down. Forestry operations were limited to blister rust control work covering 1775 acres.

Douglas State Forest

CIVILIAN CONSERVATION WORK, CAMP S-85

The Douglas camp completed about .7 miles of difficult truck trail construction during the year from December 1, 1937 to November 30, 1938, much of it consisting of heavy rock work, necessitating constant operation of a Diesel trail-builder and the dynamiting equipment. A small portion of the distance was at the south end of Wallum Lake Road, the major portion being near the north end of Ridge Trail which was made passable for its entire length but not entirely completed. Unusual flood conditions made it necessary to put in more culverts and larger ones in several places along Ridge and Wallum Trails.

Two fine parking areas were completed at the terminus of Wallum Trail with a total capacity of 120 cars.

A water hole was completed on the Southern New England road bed near Thompson Road, another on Streeter Trail South and a third was 90% completed near Ridge Trail before winter weather stopped operations.

At Wallum Lake, the beach was completed, the bathhouse received its finishing touches, 3 fine chemical latrines were built and another larger one nearly finished. Thirty standard picnic fireplaces were completed and 25 standard picnic tables provided. A large stone pavilion was carried to the point where the timber roof frame can be erected in the spring and the stone floor can be laid. A three-room dwelling for a caretaker was completed except for interior finish and grading. The details of this structure show the results of much careful study.

Foot trails were built in the Wallum Lake development where needed. A well was built but public use could not be permitted because samples of the water failed to pass the tests of the State Department of Health. Apparently a drilled well will have to be provided.

In April and May, 172,000 seedling trees were planted in Douglas Forest on 175 acres of land; 37,000 Scotch pine, 121,000 white pine, 4,000 douglas fir and 10,000 Norway spruce.

Extensive forestry work was carried on, including 295 acres of timber stand

improvement, 5.7 miles of roadside hazard reduction and 226 acres of other fire hazard reduction. Thirty-two bushels of white pine cones were collected and the seed extracted and 1216 acres were scouted by the gypsy moth crew.

Crews from this camp were called upon to help fight two bad fires in Webster and did excellent work.

The hurricane in September called for the most strenuous possible efforts by this camp to restore communications in this locality and found the organization equal to the occasion. The crews being well trained and well equipped, they were able to perform tasks of enormous value to this community. This disaster made it necessary to set aside the approved work plan and since early October all activities have been directed toward eliminating fire hazards caused by the hurricane, largely on private land, along main highways and town roads.

East Mountain State Forest

This forest which is maintained by the crew from the Beartown State Forest is fast becoming known as one of the best ski areas in western Massachusetts. Due credit should be given to the Great Barrington Sports Center at the base of these ski trails which has advertised them far and wide. In spite of a poor ski season last winter there were at least 4500 skiers using this area over five week-ends. Besides general maintenance of this ski area, the women's toilet was rebuilt, the one mile of ski trails and four miles of Appalachian Trail were mowed, and some of the northeast section of boundary was surveyed.

The Benjamin Foster Company repaired two washouts on ski trails by putting in culverts.

East Mountain State Forest

CIVILIAN CONSERVATION WORK, CAMP S-66

Warner Mountain road, 1 mile long, was completed ready for gravel surfacing. This road, running to the summit of the ski trails, is also a part of the Appalachian Trail. An Adirondack type shelter was built at the top of the trails.

The Warner Mountain open slope ski trail was cleared of stumps and boulders and graded ready for seeding next spring. This slope is 1200 feet long of varying widths up to 400 feet.

Erving State Forest

During the winter the state crew of 3 men released the plantation set out on the 1929 burnt area, 100 acres in all. During the spring the work was largely devoted to the nursery, digging and shipping of transplants and putting in about 100,000 two-year seedlings in their places. They also helped extinguish three fires in neighboring towns.

The month of June was spent in spraying for gypsy moths; the balance of the summer in caring for the picnic and bathing areas at Laurel Lake and weeding the nursery.

After the hurricane the crew went to work clearing out roads of fallen trees and a crew and trucks supplied by the Benjamin Foster Company spread 1400 yards of gravel on washed-out roads, rebuilt two washed-out waterholes and cleared out down timber on a strip along 3 miles of forest roads. There still remains a large amount of down timber on this forest.

Federation of Women's Clubs State Forest

During the early part of 1938 a WPA project gave us a chance to clear some more of the area of the bad infestation of gypsy moth. The work included painting egg clusters wherever possible and this was followed by cutting and burning the favorite food species.

All of the plantations upon the area were released and many acres of the natural stands were treated. The weed trees were taken out and wherever practical cut into cordwood and sold.

Three large water holes were constructed, each holding 25,000 to 30,000 gallons of water. This area is now well protected with sources of water supply as we have 10 water holes and 8 stations where we can pick up water from brooks.

Three bridges upon the forest had been in the process of construction for over a year and we have been able to complete them under this project. About 3 miles of old cart roads were opened up so that we might use them as hose trails in case of fire. No improvement of the roadbed was considered as trucks were not available.

As it had been two years since the boundary lines were cleared the crew brushed out the boundary lines; this being the limit of the project, the job was closed down about August 1.

The hurricane of September 21 so completely ruined the forest area that a crew of 60 men under the Benjamin Foster Company started to clean up the down and damaged trees in October and were able to get considerable done along the roadsides before the first of the year. The roads were washed at many points and these were also repaired, besides the 3 bridges which the WPA crew had constructed.

Considerable credit must be given a small crew of CCC boys from the Northfield Camp for the wonderful work they did in opening the roads through the forest and also the town roads leading to the area. All of this work was done before the contractor's men arrived upon the scene, and was of great help to them.

Foxborough State Forest

No permanent crew is employed on this forest. Following the hurricane which made practically a clean sweep of the larger pine growth and also blew down many large hardwoods, a crew of men of the Benjamin Foster Company worked for about three weeks salvaging the pine timber, burning slash and repairing roads. Following the closing of the contract work a temporary crew employed by the department continued the same work. Altogether about 150,000 feet of pine lumber and 200 cords of hardwood were salvaged.

Franklin State Forest

CIVILIAN CONSERVATION WORK, CAMP S-85

In April, the Douglas Camp planted 4,000 red pine seedlings on the 4-acre plot formerly occupied by the Franklin Camp.

Freetown-Fall River State Forest

No regular crew is employed on this forest. After the hurricane a temporary emergency crew repaired water holes, cleaned out culverts and repaired wash-outs in the roads. Most of the trees blown down were rather small and scattered and these were put into cordwood, and brush burned.

Granville State Forest

During the winter the two men who form the regular crew on this forest made an improvement cutting and released 10 acres of pine plantations. During the spring two buildings at the abandoned CCC camp were torn down and some of the lumber was used to build wood shelters at the picnic area and repair latrines. Summer was devoted to mowing roadsides and trails and looking after the picnic areas. Approximately 4500 people used these areas. As the dam at Halfway Brook would not maintain the bathing pool because of leakage many persons used the natural pool in Hubbard River.

After the hurricane the state forest crew went to work clearing out roads and trails and making temporary repairs to the main road. The Benjamin Foster Company sent in a crew which completely rebuilt 1200 feet of the main road and surfaced 3 miles with gravel. This work included replacing twenty 12-inch

culverts with an equal number of 24-inch ones. The bridge and dam at Halfway Brook, both of which were carried away, were replaced.

Granville State Forest

CIVILIAN CONSERVATION WORK, CAMP SP-24

During the winter months crews were sent from this camp, stationed at Robinson State Park, to Granville State Forest, and they did fire hazard reduction work on 100 acres.

In the spring, crews from this camp covered 1000 acres in Granville State Forest on blister rust work.

Harold Parker State Forest

During the winter much of the time of the state crew was devoted to hauling in wood cut by the CCC boys and sawing and splitting for use at the picnic areas. Stormy weather was devoted to painting picnic tables, rubbish cans and minor repairs to structures. April was given over to release cutting a red pine plantation of 14 acres, with some side trips to forest fires. From June 1 to September 21 practically the entire time of the forest crew was devoted to maintaining and policing the various picnic and bathing areas.

Following the September hurricane, the forest was closed to use and the crew went to work clearing roads and trails, salvaging down timber and clearing up debris left by the hurricane.

Harold Parker State Forest

CIVILIAN CONSERVATION WORK, CAMP S-76

The work on Harold Parker Forest may be grouped under five headings.

First—Road Construction

(a) Mason Road; double track road from Middleton Road around east side of Stearns Pond to the Harold Parker Road. This is about 80% completed.

(b) Sudden Pond Road extended to loop back to Middleton Road for distance of .4 of a mile. This is done except for shaping up in the spring.

(c) Road to parking areas at Stearns Pond Beach was completed (length .1 mile.)

(d) Middleton Road from Berry Pond to the State Forest Headquarters and the Harold Parker Road from Route 125 to Jenkins Road were resurfaced. Total length 2 miles.

(e) Harold Parker Road extension to Route No. 114 was completed, (length $\frac{3}{4}$ mile.)

(f) A road to serve the new camping ground on the east side of Berry Pond was completed, .1 mile).

In addition to construction, maintenance of completed roads was carried out.

Second—Recreation Developments

On the east side of Berry Pond a new picnic area, covering 3 acres and providing 20 fire places was developed. Two parking spaces, accomodating about 70 cars for this area, were constructed. Just south of this picnic area a camping ground was laid out, providing 4 trailer sites and 8 tent sites, each equipped with a fireplace. Toilet facilities were built for both the picnic and camping areas, and a well for drinking water constructed.

At Stearns Pond there were completed a large beach, approximately 400 feet long, 2 parking areas for a total of 100 cars, a picnic ground of 3 acres with 20 fireplaces, a well and toilet facilities.

In Lorraine Park, a parking area for 40 cars was built for the accommodation of fishermen at Frye Pond.

Grading and planting were done around all buildings and parking areas constructed also at the forest entrance at Route No. 114.

Third—Buildings and Other Facilities

The State Forest Headquarters building on Middleton Road was completed. This provides office and storage space and an auto repair shop for the superintendent of the forest.

Combination toilet and woodshed buildings were erected, one each at Stearns Pond and the new Berry Pond recreation areas.

The concrete foundations and fill were placed for the 9-stall equipment storage building behind the State Forest Headquarters. This building will be completed in 1939.

In the picnic area east of Berry Pond, work was started on the shelter pavilion. All masonry work has been completed and it is expected that the floor and roof will be finished before the 1939 season.

Electric power line from Camp S-76 to Berry Pond and State Forest Headquarters, (length 1.8 miles) is 75% completed. All but a few poles and $\frac{1}{2}$ mile of wire have been installed.

Twelve heavy log gates have been constructed to bar several of the forest roads from public use, when it is considered necessary.

Carved and painted signs have been installed on roads and in recreation areas for the convenience of the public.

Fourth—Timber Stand Improvement

(a) Preparation of sites for planting; 76 acres received this treatment.

(b) Planting: 76 acres under (a) were planted, plus 15 additional acres, making a total of 91 acres planted. Approximately 100,000 white pine seedlings were set out.

(c) Weeding: only 14 acres on the Stearns Lot plantation received this treatment. Work was deferred because of the hurricane.

(d) Liberation Cuttings: 20 acres received this type of cutting.

(e) Improvement Cuttings: 35 acres were treated.

(f) Demonstration Plots: 2 one-acre plots were laid out, each being divided into 2 one-half acre plots. In each case, one section of the lot was treated and the remaining half left untreated. An improvement cutting was demonstrated on one and a liberation cutting on the other plot.

(g) Seed Collection: 111 bushels of white pine cones were collected, the seed extracted and cleaned and sent to the State Nursery. About 160 pounds of cleaned seed was thus obtained.

(h) Timber Cruising: 2 compartments in the Andover block and the entire Georgetown block were cruised and type mapped. There remains but one compartment to be done in the Andover block. All computations and figures have been brought up to date.

Fifth—Forest Protection

(a) A program was started this year for the control of white pine blister rust: 975 acres were scouted and 4038 *ribes* bushes were eradicated.

(b) Gypsy Moth Control: 456 acres were scouted for egg clusters. A total of 305,417 egg clusters were destroyed.

(c) It would be well to mention at this point that since October 30, 1938, the entire force of this camp has been detailed to fire hazard reduction work, which is necessary due to the recent hurricane. Consequently the regular approved camp program was abandoned and amendments for fire hazard reduction work were submitted and approved. From October 30 to December 1, 1938, 2.5 miles of roadside clearing was done and 39 acres of slash cleaned up. This was all done on private lands in the towns of Wilmington, North Reading, Andover and Methuen.

Hawley State Forest

CIVILIAN CONSERVATION WORK, CAMP SP-29

The buildings formerly occupied by Camp SP-22 were torn down and the lumber salvaged. Pine blister rust control by the eradication of *ribes* was carried out on 70 acres of pine plantations.

Hubbardston State Forest

The Kendall lot of approximately 450 acres was badly damaged by the hurricane. The roads were washed out and the groups of white pine very badly wrecked. The Benjamin Foster Company placed a crew of 100 men upon the area and during the three weeks that they worked about 1 mile of forest roads were rebuilt and 4 bridges rebuilt or planked. The river bed was cleared of rubbish, stumps and material that had been washed down from other sections and was causing new hazards.

Approximately 45,000 board feet of pine was salvaged during the time the contractor was working upon the lot and there is considerable more that would have been worth salvaging. There is a fire hazard upon the area, but it is not as bad as in other sections of the district. This is because the groups of large pines were scattered over the 450-acre tract.

Leominster State Forest

The CCC Camp on this Forest was closed in December 1937 and since that time the camp at West Townsend has sent over men to develop the picnic area at Crow Hill Pond and to finish one or two projects left uncompleted by the closed camp. No regular state crew is maintained on this forest but from time to time the crew from Sudbury do essential work. Among other things they released a 5-year-old plantation covering 20 acres.

The hurricane of September blew down several of the larger pine stands on this forest and a crew of the Benjamin Foster Company started the work of salvaging timber and reducing the fire hazard but this work was discontinued before much progress had been made and was completed by a crew hired directly by the department.

Lowell-Dracut State Forest

The development of this forest is being carried out as a WPA project. During the year Trotting Park Road was completed to the Nashua road by way of Thompsons Lane. A secondary road called Road No. 1 was completed as far as Totman Road. On this road a small pond was created by the construction of a small dam.

During the spring 60,000 white and red pines were planted in this forest.

At the headquarters a one-story building to be used as a combined woodshed and comfort station was erected.

Following the hurricane which caused considerable damage to the woodland on this forest, the down timber was salvaged and the slash cleaned up.

Martha's Vineyard State Forest

Following the custom of previous years, much time was spent maintaining roads and fire lines and keeping all sections of the forest accessible in case of fire. The tractor which had been out of commission for the past three years was given a thorough overhauling by the men working on the forest. All main fire lines were badly grown to grass and brush and it was necessary to replot and harrow these lines which total about 36 miles. Eight miles of main roads were scraped and the brush was cut on the sides of 2 miles of these roads. In time it seems essential that all secondary roads should be widened about 3 feet on each side. This will make for better driving with trucks with dual wheels and will eliminate cutting brush along the sides every 2 or 3 years. Two miles of such roads were therefore widened by plowing and harrowing until freezing weather put a stop to all road work.

One of the two CCC barracks retained by the department was torn down and much of the lumber was used for floors in both barns as well as in the attics of the two houses. A work-shop was partitioned off and celo-texed in the barn at headquarters and the work room at the other barn was also wall boarded. The

foreman's house was wired for electricity and the pole line was constructed by the forest crew, the poles being cut in Vineyard Haven and the wire salvaged from an abandoned CCC camp. After the September hurricane while part of the main power line was down, the old well point supplying both houses was pulled and a new one driven.

During the summer 25 acres of state forest and 100 acres of private plantations were scouted at four different times for white pine weevil.

Blister rust was found to be existing in Chilmark and some assistance was given the owner of the infected plantation.

Part of the young white pine plantations, approximately 50 acres, were released during the winter and pruning was done in about 5 acres of the older plantings.

Runs were made to 3 small fires which were extinguished before the forest fire truck arrived. A latrine was built at the fire tower.

Mohawk Trail State Forest

During the summer the picnic and camping grounds were heavily patronized, some increase being noted over the previous year.

Camp SP-29 from Savoy built several tent floors and put a tile sewerage system in the log administration building.

The flood of September 21 cut short the fall recreation season. It carried away the famous log bridge, ruined 2 of the 3 dams in Cold River, gullied out the camp sites badly and uncovered the tiled sewerage system just installed. The Benjamin Foster Company repaired one of the dams, installed a swimming pool, filled in the washouts and if the Department of Public Works puts in a new bridge as is now planned, the recreational areas will be in a usable condition next summer.

Mohawk Trail State Forest

CIVILIAN CONSERVATION WORK, CAMP SP-29

The buildings formerly occupied by Camp SP-6 were razed and 9 fireplaces and tent floors were added to the camping area.

Monroe State Forest

During the summer no work was done, but following the flood the Trail crew made emergency repairs.

Mount Grace State Forest

The 3 regular men spent the winter upon a general clean-up job of the last remaining stand of chestnut on the Northfield road.

This netted a few poles, posts and many cords of fuel wood which we will reserve for the camp and picnic areas upon the forest. After this piece of work was done they released several acres of pine plantation which was completely buried in a stand of hardwoods. This also netted 20 cords of fuel wood which was placed beside the town road where it was sold at a fair price.

Considerable time was spent placing the ski trails upon the forest in shape, but due to weather conditions there was no use made of the trails.

The summer season was spent at "Gulf Area" by 2 men, in general repair work and upkeep of the grounds, tables and the collection of rental fees. Four new fireplaces have been built and a new water system added at the south end of the area to better supply the demand of the picnickers. The parking areas have been enlarged and the wading pools improved. Many new tables have been added to the list available so we were well prepared to care for the people that visit this area.

Following the hurricane the Benjamin Foster Company spent much time upon

logging and the clearing of trails and roads, as about 400 acres of trees on the forest area were blown down. During the time the company worked they were able to clear and log about 30 acres. This was along the Northfield road, the Gulf road and the trail to the summit of the mountain.

The hurricane wrecked the telephone line and the observation tower and with a small crew a temporary tower was built 29 feet high out of material which was taken from an old CCC camp building. This building was constructed and placed in service during the month of October and the remaining part of the fall fire season.

The State of New Hampshire also rebuilt their telephone line to the tower. but as our season proved to be very mild neither line was used very much.

Myles Standish State Forest

The major project in this forest is the management and maintenance of the picnic, camping and bathing areas at College, Fearings and Charge Ponds. The superintendent reports that more than 100,000 persons were on the forest during the season and estimates that it represents a 20% increase over the previous year. An interesting feature is that while this forest is not in a region where winter sports are prominent, quite a few persons used the ski slide at Bumps Pond and skating parties were numerous during the winter. Seven new fireplaces were built and 7 new tent sites installed.

The fire situation during April and May was bad. The forest crew took part in extinguishing 14 fires during the season. One of these which started Easter Sunday just off the forest burned 1200 acres of state land and thereby spoiled a 15-year record of no serious fires on this state forest.

The 136 miles of roads on this forest were maintained during the year and the Town of Carver has built a hard surfaced road into the forest to a point near East Head Pond, a welcome addition to our system.

During the spring 25,000 red and 25,000 white pines were planted largely by National Youth Administration boys. These boys also have taken care of the nursery and performed other useful jobs on the forest.

The entire perimeter of the wildlife refuge was posted and feeding shelters for quail and grouse constructed. Six hundred thirty-seven permits were issued for fishing in Barretts Pond and 907 hunting permits given out. Only 9 deer were reported shot.

The state forest was not greatly damaged by the hurricane but the crew rendered valuable assistance at Wareham, helping to salvage buildings wrecked by the tidal wave and pumping out cellars.

Oakham State Forest

During the summer the state crew from the Spencer Forest brushed out about 5 miles of forest roads but following the hurricane these roads were blocked with fallen trees. A crew of the Benjamin Foster Company cleared the roads and started to clean up the fire hazard on the Dean and Potter lots covering about 25 acres, when the work was discontinued. A great deal remains to be done.

October Mountain State Forest

The regular crew of 4 men on this forest did not attempt any new road construction during the year but worked chiefly on maintenance. Thanks to cooperation from Camp S-93 all roads were in excellent shape when the September flood hit the forest. This flood almost ruined the Washington Mountain Brook Road, completely carrying away some parts of it and either carrying away or undermining 4 bridges. The Belden Tavern road was also badly washed out. The Benjamin Foster Company went to work with 173 men and 20 trucks to make repairs but after 6 weeks' operation this force was materially reduced.

By the first of the year these roads were passable although scarcely in their original condition.

The state forest crew yarded out 200 cords of wood cut by CCC boys and 25,000 feet of logs.. The old sawmill formerly used by the abandoned CCC camp was moved down to the headquarters house, repaired, covered in and made quite serviceable.

The picnic area near the Tower was not much used during the past summer because of rainy weather and fishing in Felton Lake did not prove to be satisfactory.

Mr. Felton, for many years a valued employee on the forest, retired in January and passed away the following December.

October Mountain State Forest

CIVILIAN CONSERVATION WORK, CAMP S-93

The composition of this forest being of northern hardwoods, spruce and balsam, makes it particularly valuable to the Commonwealth and the work of this camp is primarily protection and development of high quality hardwood and softwood timber.

The road system has been augmented by the completion of the County and Bicycle Roads, a distance of 1.9 miles and a good start made on the Watson Road Extension. Four water holes of standard state specifications have been completed. Guard rails to the extent of 382 rods have been erected at dangerous curves and steep banks. Silvicultural projects have covered 280 acres and consisted of softwood and hardwood liberations, improvement cuttings and the weeding of plantations. Forty bushels of white pine and spruce seed for the use of the state nurseries were gathered.

The eradication of *ribes* in blister rust control covered 259 acres. A forest inventory of one-half of the forest has been completed, this work being necessary for proper forest management.

Emergency work caused by the September hurricane and flood consisted of sand-bagging the Greenwater Pond Dam, and the assisting of one family to move furniture and live stock, the house eventually being carried down stream and destroyed. Roads were later made passable in the surrounding towns of Becket and Washington. Wind-thrown timber was salvaged and the fire hazard reduced.

Construction on the Washington Mountain Brook bridge has been held up due to the washing out of the road. Footings had been poured and forms erected for the abutments at the time of the flood.

Four demonstration plots have been established on the forest showing a weeding, an improvement cutting, a liberation cutting and a spruce thinning. Two plots were established on private lands demonstrating hardwood thinning and spruce liberation.

Otis State Forest

Supervision and maintenance on this forest is done by the crew from the Beartown State Forest. In late winter a reconnaissance survey of the North Otis Forest lots was made. Before the summer recreational season began the well at the picnic area was made over to meet Board of Health specifications, and Upper Spectacle Pond was posted with fishing regulations. A forest fire was stopped on the boundary of this forest during the spring fire season.

The picnic area was supervised and maintained during the summer season, although only a few picnickers utilized this area, due mainly to the absence of a good entrance sign on highway route No. 17. This will be rectified before next summer. During the summer the picnic area and roadsides were mowed along 3 miles of road which was also scraped at least once a month. When the hurricane came the spillway of Upper Spectacle Pond was watched but found to take all water easily. However, the roads in this forest did not fare as well

and a number of bad washouts occurred, due mainly to too few culverts. Some temporary repair work was done after the storm but the principal repairs were done by the Benjamin Foster Company. During the fall the Wildlife Refuge was posted and was constantly patrolled.

The Benjamin Foster Company started repair work on this forest during October. Larger culverts were put in place of the culverts that had proved too small during the hurricane and additional ones were placed between others to keep water from running in the roads. Several thousand yards of gravel were placed to cover washouts on roads. Like all forests in this section, this forest sustained no timber damage.

Otter River State Forest

During the months of January and February 2 men and the superintendent worked cutting up fallen chestnut wood on the Erving Forest. This was yarded out with a team and hauled with the truck from this forest to the abandoned CCC camp where it was sawed and stored for use in recreation areas during the summer. One of the CCC barracks buildings was taken down and all suitable material was salvaged for use in constructing such buildings as toilets, wood-sheds etc. on the forest. Some scattered wood left from CCC operations was cut in the Bagley lot and the brush was burned. During stormy weather such carved signs as were needed for use in recreation areas were made up and a small toilet building was constructed for use at the Beaman Pond area.

During March, April and May additional camp space was prepared at the Beaman Pond area by pruning trees and cutting out a part of the underbrush. The entrance road from the causeway to the area was widened and graded to allow two-way traffic. It was deemed advisable to discontinue the nursery maintained at this forest but the following stock on hand was dug and shipped: 97,000 white pine, 60,000 red pine, and 6,000 spruce. No transplants were set and no men were made available for weeding the small amount of remaining stock. The signs which had been made up during the winter were installed and during stormy weather time was spent in constructing wood boxes for use in the recreation areas. During March one additional man was made available. It was found necessary to open the recreation areas late in May.

During June, July, and August it took the entire time of the superintendent and 3 men to supervise recreation areas. A well was established in the picnic area at Beaman Pond and a side camp from CCC Camp S-82 which was established here about June 24 constructed an administration building at the Beaman Pond area. A life guard was provided for the Beaman Pond bathing beach during the height of the bathing season. A boat was constructed during rainy weather for the use of the life guard. The Nature Guide School opened in the abandoned CCC camp buildings on June 18 and was in operation until August 12.

The week following Labor day recreation areas were left without supervision in order to take up some of the much needed release cutting on the forest and up to the time of the hurricane release cutting operations were carried on in the Whitcomb Hill section. The flood and hurricane resulted in the following damage to this forest: the bridge over the Otter River was washed away and considerable damage was done by water to the roads in the Whitcomb Hill section. extensive damage by water resulted in and about the Beaman Pond area, where there was a washout around the emergency spillway and causeway at the dam which drained the Pond; the causeway over the old electric roadbed used as the entrance road was completely washed away including the cement causeway bridge; the reservation house was cut off from outside communication for several days by washed out bridges etc. The hurricane damage was also severe throughout the forest and all forest service roads were blocked by blown down timber. The Priest Brook recreation area suffered from fallen timber but very

little timber was blown down in the immediate vicinity of the Beaman Pond area. All efforts were bent to open the town road and make temporary repairs to washed out bridges so that fire equipment could be moved in case of need. Considerable help was rendered Mr. Peabody in the construction of temporary towers to take care of those blown down and the installation of temporary telephone lines to towers and reservation house. Some aid was also rendered local people by pumping out flooded wells and cellars. A start was made in opening roads and water holes on the forest and on October 14 the Benjamin Foster Company moved in for general clean-up work and the regular men were put to work moving material stored in CCC buildings in order that the incoming CCC Camp might take possession on October 22 when Camp S-63 was re-opened.

The construction company carried on logging operations and also burned some brush and placed temporary bridges at Priest Brook and Otter River; later the logging operations were stopped and repairs to the dam roads, etc. in and about the Beaman Pond area were made on wing walls; stop wall and curbing were constructed at the dam and a power shovel was placed in the pond bed to remove silt, and such other material as was suitable was put in as fill on causeway and entrance road. A cement bridge and 2 four-foot culverts were constructed on the electric roadbed and at the present time fill is being replaced here and the road widened to permit two-way travel.

At the present time regular men augmented by emergency labor are at work cutting and yarding out logs and burning brush at points which seem to be the most dangerous.

Pittsfield State Forest

CIVILIAN CONSERVATION WORK, CAMP SP-23

Facilities at the Ski Lodge and picnic area were much improved by the construction of a 10,000-gallon reservoir near the Shadow Trail and piping this water to both the Ski Lodge and picnic area. At the same time sewerage problems were taken care of at the Ski Lodge by installing a septic tank and tile drain field.

Road work was limited to the construction of 2 miles of park road leading to the picnic area and parking space for 20 cars. The stone arch bridge at Lulu Cascade was also completed.

Forestry work included 130 acres of improvement cuttings, 190 acres of fire hazard reduction and 130 acres of underplanting. Thirteen hundred acres were covered in a blister rust control program.

Posts were set for a single wire fence around the wildlife area and 10½ acres of cover planting in small plots made with clover and buckwheat.

Royalston State Forest

The hurricane did considerable damage to the Baker Box lot which was two-thirds covered with a stand of white pine about 35 to 45 years old. The Benjamin Foster Company began operations upon the lot, clearing up the felled trees and yarding them, but after two weeks the job closed down. Approximately 20,000 board feet were cut and yarded. There is much to do upon the lot and considerable value in material that is upon the ground.

Sandisfield State Forest

This forest, maintained by the crew from the Beartown State Forest, has in the past proved an attraction to the trout fisherman. The season started off well on May 1 with 1500 fishermen on hand catching approximately 500 trout. However fishing was not too good this season and it fell off rapidly so it is estimated that 2500 fishermen caught only 2000 trout during the entire season. The picnic and camping was not as good as the previous year, due to poor weather conditions. Hunting was fair this year with approximately a dozen deer killed, and many rabbits. Two poachers on the Wildlife Refuge were convicted in court and fined.

Ten acres of red pine and Norway spruce plantations were released and 5 acres of natural white pine were liberated on the Hartshorn lot. Five acres of white pine were pruned. Several small lots of stumpage were sold for cordwood under an improvement cutting plan.

During the summer 5 miles of roadsides were mowed, also the picnic area. Also the roads were dragged at least once a month. The diving float at York Pond was repaired as it was constantly used with an average of 100 swimmers each week-end.

The old CCC camp was torn down during the spring by a wrecking company under the care of the supervisor. The supervisor also posted fishing regulations and the Wildlife Refuge, and patrolled these areas.

At the time of the hurricane a constant watch was kept on York Pond Dam and the various roads. A few minor washouts occurred but the dam held although the water lapped over it at the height of the storm. Only a very few trees blew down.

Later in the fall York Pond was drained to get shiners out, to deepen the spillway and to put in a new gate to the outlet pipe.

The Benjamin Foster Company started repair work on this forest in late October. They have repaired all washouts, and have placed a number of larger culverts where it was found the old culverts would not take the water. They have also repaired 3 water holes. At present they are putting in the new gate and spillway at York Pond Dam, and will finish shortly.

Savoy Mountain State Forest

During the summer the crew from Mohawk Trail brushed roadsides and made minor repairs. After the flood, conditions were serious especially on the Banas and Tower roads. The Benjamin Foster Company repaired washouts on these roads and rebuilt 2 water hole dams which were carried away.

Savoy Mountain State Forest

CIVILIAN CONSERVATION WORK, CAMP S-94

Work on this forest consisted primarily of thinning 187 acres of forest, producing 687 cords of firewood. Forest inventory was taken on 800 acres, which completes the field work of the Savoy Mountain State Forest. Eight hundred sixty acres were scouted for white pine blister rust and *ribes* eradicated. Thirteen colonies of gypsy moth infestation were cleaned up, 10,000 acres scouted in the towns of Charlemont, Florida, Savoy and Shelburne Falls. Twenty thousand yellow birch seedlings were planted in the wildlife area. Twenty-five bushels of red spruce cones for seed were picked and delivered at state nursery in Amherst. Four truckloads of sphagnum moss were gathered for use of the state nursery.

Experimental work on the flashboards at Bog Pond Dam was carried on during the summer and the final flashboards were put in place. These stood up perfectly during the floods of September. Concrete work on Burnett Pond Dam is about 90% completed and the entire dam is about 75% completed. Approximately $\frac{1}{2}$ mile of Tannery road has been completed this year, commencing at Tannery Pond and working north from there.

Considerable work was done on the restoration of the old house on the new State Road and the adjoining barn. Game census was taken and grid lines were opened on Wildfire Area.

The old camp near Gulf Brook known as SA-70 was razed and the lumber salvaged and used for various purposes.

Aid was rendered to all surrounding towns following the disastrous floods and hurricane of September 21. In North Adams help was given in saving people from flooded areas, moving people from threatened homes, clearing streets and buildings from debris and silt, distributing drinking water and doing useful work where ever needed.

Six temporary bridges were built in Florida, Savoy, Windsor and Hawley. Our equipment helped to open up a detour on Mohawk Trail through Hoosac Tunnel and Zoar, and opened the road by clearing away landslides on the road to New England Power Plant No. 5. We opened up isolated communities in Savoy, Windsor, Hawley and we did considerable emergency repair work on roads, badly washed away during the floods, in all the surrounding towns.

Savoy Mountain State Forest

CIVILIAN CONSERVATION WORK, CAMP SP-29

On the Savoy Mountain Forest this camp completed 40 acres of forest stand improvement and 340 acres of fire hazard reduction. It enlarged the parking area at Tannery Falls and commenced work on 1.2 miles of road. Following the flood of September 21, 2000 man days were expended repairing roads in Hawley, the destruction of which had left many families isolated.

Shawme-Crowell State Forest

The 36 miles of road on the forest were maintained as well as 1 truck and 3 men were able. At the Weeks Lot in East Sandwich 10 acres of a 24-year plantation of white and red pine were thinned and on the state forest 50 acres of young plantations were released. At the nursery 190,000 4-year transplants were dug and planted on the forest. The planting work was done by a crew from the CCC Camp at East Brewster. Thirty-three thousand two-year seedlings were transplanted in the nursery. The addition to the headquarters house started the previous fall was completed and a small office added to the garage. At the nursery a tool house was erected.

The spring fire season was a busy one. The forest crew assisted in suppressing 14 fires on the Cape. One of these which started on the National Guard Reservation burned about 600 acres of state forest land as well as taking the lives of 5 fire fighters.

The name of this forest was changed to Shawme-Crowell in memory of Lincoln Crowell, for many years the District Fire Warden on the Cape, who was killed last spring in an accident. Mr. Crowell played an important part in the acquisition and development of this forest for many years and it was thought fitting by the department that his name should be attached to it.

Shutesbury State Forest

This forest area has not been worked for four years and there is little to report except the work which was done by the Benjamin Foster Company after the hurricane and flood.

All of the old town roads leading to the area were cleared of down trees. Two bridges were rebuilt and approximately 1½ miles of old roads repaired. The job was closed down at a time when the work was getting well under way and there are miles of roads which will need repair before we can use them for any purpose.

There are acres of pine stands which must be cleared of broken and down material before we can expect much of the younger growth which is our future forest.

Spencer State Forest

The Brimfield CCC camp completed the construction of the administration building and it is now occupied by the supervisor. The state crew planted 5000 red pines in the Howe Pond section and the forest roads were brushed out and repaired. Considerable time was spent by this crew in transporting lumber from Douglas to Sudbury. The hurricane did a large amount of damage on this forest. Besides blowing down a large amount of pine timber the flood damaged the dam and spillway at Howe Pond and took out a bridge at North Spencer and

washed out several culverts. A crew of the Benjamin Foster Company was set to work to repair this damage and when their work was stopped, fire hazard and salvage work was continued by a state crew. About 100,000 feet of lumber and 250 cords of wood have been salvaged.

Howe Pond proved to be a popular recreation center. About 1,000 fishermen tried their luck although their catch was small. About 5,000 additional people made use of the picnic area.

The Spencer forest crew assisted in extinguishing 11 fires.

Spencer State Forest

CIVILIAN CONSERVATION WORK, CAMP S-85

In May and June the Douglas camp completed a general clean-up and grading project around the Administration Building.

Sudbury State Forest

Most of the work on this forest has been done by WPA crews from Marlborough and Hudson and has included road construction, planting, gypsy moth scouting and improvement cuttings. Much of the time of the state crew attached to this forest was spent in building exhibits at Sportsman's Show, Flower Show, Brockton Fair and Eastern States Exposition. In the spring this crew is busy handling fires.

The hurricane did considerable damage to this forest in leveling nearly all the larger pines as well as many hardwoods. Considerable work towards salvaging this timber and reducing the fire hazard was done by the Foster Company but much remained to be done where they left off and the number of regular men increased by an emergency crew have been completing it.

Sutton State Forest

CIVILIAN CONSERVATION WORK, CAMP S-85

The Douglas camp gypsy moth crew completed 290 acres of scouting in February.

In April 55,500 seedling trees were planted on 61 acres divided by species as follows: 30,000 white pine, 15,000 larch, 3,000 hemlock, 3,000 Norway spruce, 4,500 Douglas fir.

Templeton State Forest

The Hadley-Aiken lot was worked to some extent this season as the water holes had been cleared and the roadside brush cut along most of the trails previous to the hurricane.

After the hurricane the Benjamin Foster Company cleared the roads, rebuilt 5 bridges, for which the department furnished the planks, and gravelled approximately 3 miles of the forest roads where they had been washed or badly galled.

The Benjamin Foster Company also dug the silt out of 4 water holes, one of which was practically rebuilt, it had silted up so much.

This work has placed the Hadley-Aiken lot in very good repair and with such work as we can give it in the season ahead it needs very little attention.

The Templeton Town Lot so called did not fare as well. There has not been any work done upon this parcel for 3 years. After the hurricane we found the roads were very badly blocked with the pines from the plantations which were blown across them. The Benjamin Foster Company did some work upon these parcels and the roads have been cleared of trees. One bridge was replaced for which the department furnished planks. This lot will need considerable attention when we have man power to put at work upon it. We feel there is a bad fire risk upon the lots in this section of the town, so that fire protection should be given the areas if possible.

Tolland State Forest

This forest, maintained by the Beartown State Forest crew, has proved to have great attraction for the picnicker and camper in this section, with an average of 150 picnickers and 10 campers each week-end throughout the season. The parking space proved inadequate at the peninsula as did also the fireplaces. The camping space needs to be doubled. Blueberry pickers were numerous again and proved a nuisance by leaving papers scattered along the roadside. The hunting was fair. Fishing on the Otis Reservoir proved good and trout fishing along the Farmington River was excellent.

Before the summer season 4 new toilets were built for the camping area, and 2 old ones in the picnic areas rebuilt. The well at the peninsula was rebuilt to meet Department of Health specifications. Six new fireplaces were built at the peninsula picnic area. One mile of telephone line of the former CCC Camp was taken down. Part of the old CCC garage was torn down. The old CCC log cabin was repaired and rented all summer. All roads totaling 3 miles were dragged several times during the summer and roadsides were mowed as well as the picnic and camping areas. During the hurricane everything possible was done to save the roads from washing out but a few large and several small washouts occurred. The Benjamin Foster Company has since repaired this damage.

The Benjamin Foster Company started work on repairing the hurricane damage on this forest in October. A good many large culverts were put in place of those proving too small during the storm and a number were placed in between where too much water had been found to run in the roads. Catch basins and headwalls were of course added to the culverts to prevent erosion. Several thousand yards of gravel were placed on washouts on the forest roads. Grading was done after the gravelling.

Upton State Forest

CIVILIAN CONSERVATION WORK, CAMP SP-26

Forest and park development work was temporarily suspended at this area when the Civilian Conservation Corps transferred their unit to the Salisbury Beach State Reservation on July 18, 1938. A small group, or side camp, was maintained at Upton until November 9, 1938.

During the winter months the forest conservation work was continued by release cuttings in 5 to 10-year pine over 170 acres in north section, 110 acres of 15-year pine in the west section, and 20 acres of pine plantation in the recreational areas. A burned-over area of 154 acres was cleared for spring planting, and 10 acres of pond area were cleared and cut. Some fire hazard reduction work was accomplished in scattered sections of the forest.

The spring and summer season saw the completion of many of the recreation features and facilities including the Park Road extension, 1 mile long, 20 feet wide, with ample drainage, and with shoulders and slopes well landscaped. This road completed the park drive system and thus provides access to the entire park development. Another job of major importance was the Dean Pond Dam, an earth embankment section, with full concrete diaphragm, a height of 20 feet, a length of 200 feet, and bottom width. Two spillways were provided; one, in the main section of the dam, was constructed in the form of a pleasing cascading brook, while the other, separate from the main structure, provided for flood condition. This flood spillway is 55 feet long, 10 feet high and has a full gravity section of weathered masonry provided with an apron forming a stilling pool. The dam impounds a pond of approximately 10 acres and affords an attractive recreation center for the forest.

Other work completed included the Hyde water hole, 22,000 gallons capacity, the Cook water hole, 38,000 gallons capacity, and the Hutchins water hole, 27,000 gallons capacity. The Hurley Truck Trail, one mile long, single track with turn-outs, was constructed over Pratt Hill in the west section, and provides a much

needed access to this interesting section. The Painted Valley and the Cave of the Winds picnic areas were developed and fireplaces and tables installed. A total of 153,840 young trees were planted, including 129,215 white pine and 24,624 red pine.

Warwick State Forest

CIVILIAN CONSERVATION WORK, CAMP S-86

This camp operates on the Warwick, Wendell and Erving Forests. On the Warwick Forest 415 acres were covered in timber stand improvement operations principally in the form of liberation cuttings, and 14 acres were thinned on the Erving Forest. During the spring 36,000 trees were planted on the Warwick and 48,000 on the Wendell Forests. Insect and disease control work included the creosoting of 340 acres of woodland on the Erving Forest and spraying some 50 acres of land surrounding the picnic area at Laurel Lake. On the Warwick lands 1500 acres were scouted for *ribes* and at Wendell 200 acres.

Construction work was continued on the Page Road and Royalston Road but because of the hurricane, road building operations were halted and the camp assisted the state crews in clearing forest roads at Erving and Warwick and in building temporary fire towers on Mount Grace and at Petersham. Since the completion of this work the camp has been engaged in fire hazard reduction work on private property.

At Laurel Lake picnic area the parking space was enlarged and an addition put on the bathhouse.

Wendell State Forest

The CCC camp maintained on this forest since 1933 was closed in December 1937 and following the closing our state crew which numbers only 2 men finished up a few uncompleted jobs left by the camp. The early spring was devoted to a cooperative experiment with the United States Bureau of Plant Industry. This experiment consisted in clearing an acre of land and surrounding it with a 10-foot woven wire fence. Within this enclosure about 1,000 Asiatic chestnuts of varying strains and species were set out. The purpose of this experiment is to test the climatic hardiness of these chestnuts which are immune to the chestnut bark disease.

During the summer the crew worked on roads of which there are 30 miles in this forest, and water holes. Since the hurricane which did considerable damage to this forest both in the way of blown down timber and water damage to roads, the crew, helped for a few weeks by men of the Benjamin Foster Company, were engaged in repairing this damage.

West Brookfield State Forest

The Brimfield CCC camp completed the liberation of the pine plantation, on the Holmes and Merrill lots. They also made some repairs to the road leading into the lots. This work resulted in the production of 96 cords of wood. The hurricane destroyed a very fine stand of white pines 50 years old on the Fullam lot and it was necessary to put some men to work on this lot to salvage the logs and clean up the fire hazard.

Willard Brook State Forest

During the winter months wood cut by the CCC Camp in thinning operations was salvaged by the state crew and all slash near roads and trails burned. During the spring picnic tables, cabins and other recreational facilities were put in order and wood worked up for use during the summer. From June to September the entire time of the crew was devoted to the maintenance and patrol of the various camp sites, picnic grounds and the bathing pond.

The completion of the Damon Pond Dam and bathhouse by the CCC camp attracted a greatly increased patronage to this forest during the summer and resulted in a busy season. The cabins were rented to 95 persons and 133 parties used the tenting area.

In common with all other forests in the central part of the state Willard Brook was visited by the September hurricane. The forest suffered severe wind damage and most of the large pines at Damon Pond and around the cabin area were blown down. There was even more severe damage to sections outside of the recreational area and some flood damage to roads. As it was quite impossible for our small state crew to make any real progress in clearing up the debris a crew of the Benjamin Foster Company worked from October 14 to November 9 in salvaging down timber and repairing roads. Following the cessation of the contractor's work the state crew have been engaged in finishing the job.

Willowdale State Forest

Up to the time of the hurricane only one man, the superintendent, worked on this forest and most of his time was spent in patrol work. He did however keep roads and trails brushed out. During the spring and summer a crew of CCC boys from the North Reading Camp carried on a wildlife program consisting chiefly in brushing grid lines and releasing wild apple trees.

After the hurricane the superintendent was given a small crew to salvage down timber and clear the fire hazard.

Windsor State Forest

The September flood caused serious damage at the Westfield River recreation area, carrying away part of the road, undermining the abutments of the bridge, and leaving the picnic area covered with silt and debris. The Benjamin Foster Company have replaced the bridge and road, cleared the picnic area and dredged the dam and river of material brought down by the flood.

Windsor State Forest

CIVILIAN CONSERVATION WORK, CAMP SP-29

Some further changes were made at the Westfield River camp ground by constructing a new channel for the brook, grading 2.3 acres and adding 30 fire places. Unfortunately much of this good work was ruined by the September flood which raised the river so that the entrance road and bridge was washed out and the picnic area deeply gullied. About 250 acres of white pine plantations received protection from blister rust by eradication of *ribes*.

TOTAL ACREAGE OF STATE FORESTS, RESERVATIONS, PARKS AND LOTS

<i>Name of Forest and Location</i>	<i>Average</i>
Arthur Warton Swann (Monterey)	986.75
Ashburnham (Ashburnham, Gardner, Westminster)	1,795.55
Barre (Barre, Rutland)	642.96
Bash Bish (Mount Washington)	390.08
Beartown (Monterey, Great Barrington, Lee, Tyringham, Stock- bridge)	7,999.23
Becket (Becket)	456
Billerica (Billerica)	367.72
Boxford (Boxford, North Andover, Middleton)	574.18
Brimfield (Brimfield, Monson, Wales)	1,057.82
Campbell Falls (New Marlborough)	26
Carlisle (Carlisle)	21.94
Chester-Blandford (Chester, Blandford)	2,327.95

<i>Name of Forest and Location</i>	<i>Acreage</i>
Clarksburg (Clarksburg, North Adams)	2,801.1
Colrain (Colrain, Heath)	1,268.42
Conway (Conway, Williamsburg)	1,716.12
Daughters of the American Revolution (Goshen, Ashfield)	1,237.15
*Douglas (Douglas)	3,467.85
East Mountain (Great Barrington, New Marlborough, Sheffield)	1,553.07
Erving (Erving, Northfield, Orange, Warwick)	5,418.93
Federation of Women's Clubs (Petersham)	990.55
Foxborough (Foxborough, Wrentham)	809.72
*Franklin (Franklin, Wrentham)	869.29
*Freetown-Fall River (Freetown, Fall River)	6,582.54
Georgetown-Rowley (Georgetown, Rowley, Boxford, Ipswich)	1,069.01
Granville (Granville, Tolland)	2,232.5
*Harold Parker (Andover, North Andover, North Reading, Middle- ton)	2,906.39
Hawley (Hawley, Plainfield)	4,052.45
Hopkinton (Hopkinton)	108.
Hubbardston (Hubbardston, Phillipston)	1,106.87
Huntington (Huntington)	441.
Leominster (Leominster, Princeton, Sterling, Fitchburg, West- minster)	3,293.18
*Lowell-Dracut (Lowell, Dracut, Tyngsborough)	913.01
Marlborough (Marlborough)	173.
*Marthas Vineyard (Edgartown, West Tisbury)	4,472.75
Middlefield (Middlefield)	403.6
Mohawk Trail (Charlemont, Hawley, Savoy, Florida)	5,746.16
Monroe (Monroe, Rowe, Florida)	4,237.98
Mount Grace (Warwick)	1,223.82
*Myles Standish (Carver, Plymouth)	10,909.87
Nantucket (Nantucket)	133.
New Salem (New Salem)	70.
Northfield (Northfield)	398.98
Oakham (Oakham, Rutland)	1,013.73
October Mountain (Lee, Lenox, Becket, Washington)	14,188.99
Orange (Orange)	59.
Otis (Otis, Becket, Sandisfield, Tyringham)	3,835.15
Otter River (Winchendon, Templeton, Royalston)	1,882.51
Oxford (Oxford)	28.7
*Peru (Peru, Middlefield, Worthington)	2,185.61
Petersham (Petersham, Athol)	626.91
Pittsfield (Pittsfield, Hancock, Lanesborough)	3,854.48
Rehoboth (Rehoboth)	152.03
Royalston (Royalston, Orange)	842.65
*Sandisfield (Sandisfield, New Marlborough)	3,923.09
Savoy Mountain (Savoy, Florida, Adams, North Adams)	10,641.15
*Shawme-Crowell (Bourne, Sandwich)	8,622.53
Shutesbury (Shutesbury, New Salem)	1,202.56
*Spencer (Spencer, Leicester)	1,016.45
*Sudbury (Sudbury, Hudson, Stow, Marlborough)	655.28
Sutton (Sutton)	599.26
Templeton (Templeton, Hubbardston)	640.62
Tolland (Tolland, Otis, Blandford)	2,940.05
Townsend (Townsend)	2,713.49
Upton (Upton, Hopkinton, Northbridge)	2,587.08

*Name of Forest and Location**Acreage*

Warwick (Warwick)	4,526.25
Wendell (Wendell, Orange, Montague, New Salem)	6,356.23
West Bridgewater (West Bridgewater)	251.99
West Brookfield (West Brookfield)	132.
Westminster (Westminster)	342.45
Willard Brook (Ashby, Townsend, Lunenburg)	1,430.8
Willowdale (Ipswich, Topsfield)	1,902.65
Winchendon (Winchendon)	177.5
Windsor (Windsor, Savoy)	1,616.43
Worthington (Worthington)	225.
*Wrentham (Wrentham, Plainville)	1,075.26
Total	171,476.97

*Includes takings.

State Reservations

Salisbury Beach Reservation (Salisbury)	519.96
Standish Monument Reservation (Duxbury)	25.

State Parks

Robinson State Park (Agawam, Westfield, West Springfield)	995.07
Roland C. Nickerson State Forest Park (Brewster)	1,707.

State Owned Lots

Taken under the Reforestation Act of 1908

*Name of Forest and Location**Acreage*

Flint (Andover)	45.5
Brochu (Attleboro)	24.25
Crocker (Barnstable)	32.
Smith (Barnstable)	27.
Town of Berkley (Berkley)	12.
LeClear (Brewster)	18.
Baker (Bridgewater)	58.46
Sherman (Tower Lot—Brimfield)	.1
Fiske (Buckland)	85.
Dewar (Carlisle)	40.
Vaughan (Carver)	5.
Crowell (Dennis)	20.
Crowell (Tower Lot—Edgartown)	15.
Tower Lot (Essex)	7.
Perry (Falmouth)	18.
Estabrook (Fitchburg)	7.
Lawrence (Fitchburg)	27.
Churchill (Freetown)	9.
Clark (Holden)	50.
Holmes (Kingston)	14.
Jones River Village Club (Kingston)	112.
French (Lancaster)	82.18
Parker (Lancaster)	12.75
Cadwell-Glazier (Leverett)	90.13
Pond (Leyden)	61.
Herrick (Lynnfield)	7.
Perry (Medfield)	37.17

<i>Name of Forest and Location</i>	<i>Acres</i>
Rhea (North Andover)	44.
Stone (North Brookfield)	37.
Clark (Paxton)	45.
Cadwell-Allen (Peiham)	22.
Leonard (Raynham)	16.
Killam (Rowley)	24.25
Sohier (Rowley)	7.12
Estabrook-Ewell (Rutland)	64.51
Holway (Sandwich)	24.
Weeks (Sandwich)	20.
Davis (Shelburne)	42.5
Ballou (Shirley)	18.
Pierce-Gurney (Taunton)	29.
Jacobs (Wellfleet)	8.
Crowell (Yarmouth)	21.
Simpkins (Yarmouth)	74.
Total	1,452.92

REPORT OF THE FORESTER IN WESTERN MASSACHUSETTS

Early in the year the Hampden County Improvement League found it necessary to reorganize the office space in its building in West Springfield to provide for Federal agencies directly connected with new county agricultural pursuits. In this reorganization the Division of Forestry and two other state agencies were obliged to relinquish the office privileges furnished by the League, without charge, during the past sixteen years. This office was moved to the District Forester's home at 248 Fort Pleasant Ave., Springfield, where it has been satisfactorily maintained.

Activities on state forests and extension forestry have absorbed the time of this office during the past year. The work undertaken on state forests by the CCC was of primary importance and included forestry, recreation, and wildlife developments. Two forests having no CCC camps were also allotted to this office for general supervision. The assignment of a man for general work on forest areas made it possible to maintain and supervise the recreational areas on the Pittsfield, Peru, and D. A. R. Forests and to accomplish considerable supplementary work on these same forests. The emergency restoration work on the state forests in the Western District following the devastation caused by the September hurricane added a heavy responsibility to this office. The extension forestry covered a variety of service in the Western District.

The District Forester has served as state inspector of the CCC Camp, SP-23, located on the Pittsfield Forest and of the work undertaken on the D. A. R. State Forest by the Savoy Camp, SP-29. The duties included planning projects for forestry, recreation, and wild life on state forest lands, inspecting the character of the work and its progress, and reporting to the Boston Office concerning the same. The work accomplished by the CCC camps and by the state on the Pittsfield, Peru, and D. A. R. Forests is covered under these forest headings elsewhere in the general report of this division.

The District Forester responded to requests from the technical personnel in the CCC camps for advice relative to the developments on state forests and gave talks to groups in connection with the camp educational programs.

At the request of the Superintendent of Robinson State Park the forestry operations conducted by the Agawam CCC Camp, SP-24, within the park and on the Granville State Forest during the winter of 1938 were laid out and inspected through this office. Since the policy of the National Park Service excludes

forestry as essential in park development, it was questionable if further forestry operations would be allowed as part of the work program on Robinson State Park. The elimination of forestry projects not only threatened a necessary part in the development of the park but also threatened the continuation of the CCC camp on the park area. The District Forester made a report justifying the essential forestry practice in protecting the forest growth from fire and insects and in the establishment of desirable park trees within Robinson State Park. The report indicated that it will take three full winters' work for the CCC camp to complete the required forestry operations. The program as outlined was acceptable to the National Park Service, and the first winter's forestry work of 7,000 man days was approved for Robinson State Park.

The reestablished Lenox CCC Camp, SP-28, and the Boston Office were each supplied with a set of three maps; Type Map, Cover Type Map, and Improvement Map, covering the Wildlife Area on the October Mountain State Forest. Projects in connection with the development of this area were also outlined at the request of the camp superintendent. Since the Lenox Camp has no forester in its technical personnel, the District Forester will assist the camp superintendent in preparing his winter forestry projects.

A survey was made and data secured on an area cut over in trespass on the Middlefield State Forest. Negotiations are in progress for the settlement of this trespass.

A procedure was outlined, and maps and data were furnished for a WPA project to study the lands at the headwaters of the principal streams in the western part of the state. This project had been recommended as an aid in the future land acquisition policy of the Division of Forestry.

The September hurricane caused tremendous damage to the state forests in the western district. East of the Connecticut River timber was blown down over areas especially in the northeastern section of the district, and many fire towers were destroyed by the wind. The accompanying rain damaged roads, bridges, dams, and water holes. A condition such as never has been experienced in the history of the Commonwealth was created. While much has been done by Federal and State agencies to rectify these conditions, a stupendous amount remains to be accomplished before the hazardous situation is reduced to a degree of relative safety. West of the Connecticut River the timber on State forests suffered practically no injury nor did the forest fire towers, but roads were partially or entirely washed out, bridges were undermined, dams were weakened, and water holes were damaged by the accompanying rain. In this latter western section immediate steps were taken to correct the existing conditions in order to render the forest areas accessible for their protection and use. In connection with the hurricane damage and the subsequent emergency restoration work the District Forester reported to the Boston Office on 11 state forests in the southwestern part of the State; accompanied representatives of the Benjamin Foster Company over all the damaged state forest areas west of the Connecticut River to gather data concerning the types of required restoration work, and represented the Boston Office in the emergency operations done by the Benjamin Foster Company west of the Connecticut River. The emergency restoration work accomplished on state forests in the western district is outlined under the respective forest headings in the general report.

Extension forestry included service to individuals, organizations, schools, and communities. Information sought covered forestry, recreation, and wild life. Some advice based on field examinations was given, and other requests were handled by personal contact at this office, by telephone, and by letter. The September hurricane brought a large number of communications relative to timber damage. Several of these inquiries came from areas east of the western district. The assurance that injury to hardwood and pine foliage caused by a late frost was temporary relieved the anxiety of many tree owners. Individuals asked for information concerning the treatment of woodlots in conjunction with planting

programs, and some inquiries regarding wildlife developments were received. Planting continues to be the chief forestry activity, and in the 4 western counties 52 persons bought from the state and planted 76,000 trees while 230,000 trees were planted by 12 communities. These figures show increases over last year. Talks were given, and committee memberships were continued as a means of assisting organizations in forestry and allied subjects. Winter sports hold the interest of many organizations in the western district, and membership on the Western Massachusetts Winter Sports Council formed a good contact with these interests. The Boy Scouts' camp development and outdoor program was best served through membership on the Executive Board of the Hampden Council of Boy Scouts. Arrangements have been made to advise with the Pittsfield Y.M.C.A. relative to the development of a wooded area recently received as a gift. The Berkshire Hills Conference and other organizations as well as individuals were supplied with pamphlets, maps, and data relative to the recreational facilities on state forests. Throughout the summer one group was furnished with suggestions for week-end trips to state forests. Planning boards, town forest committees, and towns still conducting WPA forestry projects received advice and cooperation through this office. Material for exhibits were loaned to Boy Scout Troops and schools. The District Forester was in attendance at the Division of Forestry exhibit at the Eastern States Exposition until this was closed because of the September hurricane. The number of talks given and examinations made is included in the general report of this division.

NURSERY WORK

In pursuance of the recommendations for the development, improvement and expansion of state nurseries, which is contained in Public Document No. 73, being the Annual Report of the Commissioner of Conservation for the year 1937, the proposed improvements contained therein are now being made and work of expansion is being carried on to the end that the output of the nurseries may eventually be of sufficient size to meet the public demand for reforestation stock. It would now appear that such expansion has become more necessary than ever before in view of the tremendous destruction of forests in our Commonwealth.

A firm adherence to the policy of prohibiting the sale of trees for ornamental purposes has been maintained, and sales and distribution have continued strictly in line with the reforestation program as approved by this Department.

Amherst Nursery

At the Amherst Nursery seed extracting operations are now being carried on in an extensive program, and it appears for the first time these operations will be productive of a yield of white pine seed 100% native, sufficiently large to eliminate the need for purchase of this species of seed and to provide transplants which by reason of their nativity should be superior to previous production. Losses in the past are in some measure traceable to inferior quality of seed, which can be explained by excessive temperatures while extracting, mixing of old seed with new, (thereby reducing the germination possibilities), collections from parent trees in parts of the country where the elements and soil conditions do not compare with this section and by other similar reasons.

Damage to this nursery which occurred as the result of the recent hurricane is being repaired as speedily as possible and will continue until restoration is effected. This work included soil restoration, repairing injury by water and property damage to buildings, replacement of entire telephone system including erection of a line of poles, and other tasks similar to those referred to, all of which are being done.

Clinton Nursery

At the Clinton Nursery a building has been erected which provides accommodations for 2 vehicles and a workshop which will be used in the manufacture

of seed frames, planting boards, etc., together with first floor and loft space which will care for general storage of materials, equipment and implements used in connection with nursery work. A small office which is intended for use in carrying out the administrative work is also a part of this unit.

With reference to that portion of Public Document No. 73, year 1937, under caption "Clinton Nursery", reference was made to the need for treatment of the soil on certain areas in this nursery. As previously stated this condition is due to the fact that nursery operations with the constant turn-over of stock over a period of years have removed much of the valuable top soil, and owing to the failure to restore its energy by frequent treatments of fertilizers, chemicals, peat sod, etc. this problem is the result. To permit these areas to remain idle during the restoration treatments it was necessary to clear adjoining scrub and wooded land to the extent of approximately 7 acres which are now being prepared to accommodate planting needs.

There has also been constructed 1700 feet of road, 18 feet in width, to replace the inadequate eight-foot drive which previously existed for a distance of only about 700 feet. This road construction work, together with the erection of necessary fences totaling approximately 800 feet, has added materially to the nursery structure.

Experiments have been conducted in this nursery to ascertain the possibilities for the operation of seed-bed units, and the results have proven highly satisfactory. Therefore, it is planned to operate a number of seed beds at this site which will materially aid in supplying the needs of the newly created areas previously referred to.

Bridgewater Nursery

At Bridgewater work continues to be steadily carried on so that in the end this nursery will be restored to its maximum ability of production.

Soil treatments have been made with fertilizers and manure with satisfactory results. Approximately 7 acres of brushland adjoining the cultivated sections of this nursery have been cleared and work is now being carried on including such operations as the removal of stones, breaking in of soil, all of which is intended to prepare this area for spring planting.

Plans have also been made for the removal of the present existing shed which is now used for administrative purposes, and its replacement by the construction of a new building which is designed to care for the existing needs more efficiently.

Otter River Nursery

Observations and experience with this nursery, considering the remoteness of its location as compared to the returns from its operations, definitely establish its undesirability as a nursery structure and operations on this area will be concluded upon the final removal of the remaining stock in 1939.

Erving Nursery

The Erving Nursery successfully serves as a display nursery and its continued use in this capacity seems highly desirable.

Shawme-Crowell Nursery

Preparations are being made at the Shawme-Crowell Nursery to make this unit a display nursery in the Cape area somewhat similar to that of the Erving Nursery.

The transplant beds are to be bordered on 3 sides by a coniferous plantation which will include several species of conifers, and which it is believed will serve as an aid and informative demonstration to those of the public who are interested in the reforestation efforts of the Department.

Myles Standish Nursery

The long-term planting program on the Myles Standish State Forest and adjacent state-owned tracts of land, together with the periodic replacement plantings which are made necessary by fire losses, will consume the entire output of the nursery on this forest for some years to come, and would, in itself, justify a continuation of the present procedure and operation of this nursery.

The geographical location of these nurseries provides an excellent contribution to economic and efficient operation as they are so situated that each can capably serve a portion of the state.

The immediate need for further improvement and essential nursery operation, other than the suggestions contained above, would seem to be the purchase of power cultivators. Use of these machines at the nurseries would be of tremendous value, as frequent cultivating operations are very essential to aid and insure the growth of transplants, and the purchase of these implements is contemplated. A single machine will accomplish more in one day than could possibly be done in several days under the old system of using a horse, and over a period of time the cost would be much less.

Sales and Distribution

The following is a comparative table of trees which were shipped in 1937 and 1938, and the various classifications to which they were distributed:

	1937	1938
Sales	465,062	748,300
State Forests and Forest Parks.	1,241,200	1,379,050
State Departments and Institutions, etc.	277,626	389,070
Town Forests	243,000	296,000
Total	2,226,888	2,812,420
Trees shipped, 1937-1938 —Total increase		585,532

REPORT OF CHIEF MOTH SUPPRESSOR

MR. ERNEST J. DEAN, *Commissioner*.

Sir: The annual report on the suppression of gypsy and brown-tail moths for the fiscal year ending November 30, 1938 is herewith submitted.

I am pleased to report a substantial decrease in acreage defoliated in 1938. In 1937 there were 393,613 acres of woodland defoliated, and in 1938 there were 154,348 acres defoliated, a decrease of 209,265 acres. This defoliation occurred in all sections of the state east of the Berkshire County line. Barnstable, Franklin and Hampshire Counties had the largest number of acres defoliated. The remainder of the state showed a great improvement. The greatest decrease occurred in Bristol and Norfolk Counties, where 8,290 acres were defoliated in 1938, compared with 170,000 acres in 1937.

During the fall and winter of 1937-38 there were 175 towns operating WPA moth projects, with a maximum of 5,576 men employed. This work was confined to creosoting egg masses, thinning, and spraying in woodland areas. The quality of the work was greatly improved over the previous years. No defoliation occurred in the residential sections, as local crews took care of these areas with regular town appropriations.

There was no U. S. Department of Agriculture WPA browntail project; 417,436 webs were cut and destroyed by men employed on regular moth work or by men employed on WPA moth projects in 91 towns; in several towns only one web was found, while in Truro 35,000 webs were destroyed. Scouting for brown-tail webs was done in 226 towns.

Tent caterpillars were quite numerous last spring; 2,114,662 webs were destroyed by men employed on WPA moth projects in 114 cities and towns, while in 17 other towns spraying only was done. Many favorable comments were received, indicating that this work was appreciated by the public. The Oriental moth is increasing and spreading. Many trees were defoliated by this insect in Boston, Chelsea, Revere and Winthrop. Elm beetle, European willow beetle, canker worm and forest tent caterpillar were very numerous throughout the state. The forest tent caterpillar defoliated trees on many thousands of acres in Berkshire County. The Japanese beetle is increasing and spreading. The satin moth was not very much in evidence except in Pittsfield where many poplar trees were defoliated. The Dutch elm disease has not been reported in Massachusetts up to date.

We anticipated having a great many WPA moth projects this fall and winter owing to the hurricane, but the men we expected to have were assigned to removal of fire hazard. There were 35 cities and towns having WPA moth projects in operation during November, with 1,253 men employed.

The severe hurricane of September 21 will have an effect on moth conditions for years to come. Many of the trees blown down were heavily infested, egg masses were jarred off and eggs scattered. These eggs will hatch, and with less trees and foliage to feed upon, much defoliation may be expected. Many of the stumps and much of the débris will never be removed, especially in privately owned woodland. These stumps and débris will make ideal nesting places for gypsy moths, and make it almost impossible to do any creosoting. Spraying will have to be resorted to in these cases. I would recommend that this débris be burned as soon as possible. The scattering of deciduous brush, instead of burning, as recommended by the U. S. Forest Service, will add to our troubles, as female moths deposit their eggs on twigs as small as a lead pencil.

Forty-five towns were furnished with supplies by this Department; 35 of these were also financed from state appropriation.

A summary of conditions in the various divisions follows.

Respectfully submitted,

H. B. RAMSEY,
Chief Moth Suppressor.

Division 1—Walter F. Holmes, Superintendent

The general condition showed much improvement over last year's in most towns; a few towns showed a decided increase and some towns that have been badly infested in the past showed no defoliation in any section.

The brown-tail moth situation is bad in the Cape section where some thousands of webs were cut; they are quite noticeable again this fall.

The tent caterpillar situation was greatly improved over past years, as most towns were able to destroy the webs under a WPA project, very good work being done; also much wild cherry was removed.

Most of the towns had WPA projects during the greater part of the winter months on creosote operations, and as the men employed on the projects are getting more experienced on this work, very good results were seen; also much light roadside thinning was done under the same heading, and a few towns have some assistance in spraying operations.

The late hurricane had but little effect on the moth situation in this section except along the shore line where a considerable number of trees were blown down and the eggs scattered about, but inland no great number of limbs broken from trees has been noted and so far as can be seen the nests were not blown off the trees to any extent.

All towns in this division except Mattapoisett have one or several high powered sprayers and quite a number of towns also have smaller sprayers for orchard

work and extensive spraying is done throughout the whole division in the residential sections and along the wooded roadsides.

The towns with but few exceptions make quite adequate appropriations; one or two towns for years made none until this year and these were very small amounts. The local superintendents as a whole are very capable men and greatly interested in obtaining results, but as usual there are a few that show no interest and lack ability. With but few exceptions the town officials are responsive to suggestions offered through the State Department of Conservation and show great interest in getting results. The same can be said for the townspeople in general.

Division 2—C. W. Parkhurst, Division Superintendent

Conditions in Norfolk and Bristol Counties are much improved. There is less defoliation than there has been for many years. Last year 170,000 acres in the two counties were defoliated and this past summer there were 8,290 acres defoliated. There is also a general decrease in the quantity of egg clusters from a year ago. In the winter of 1937 and 1938, there were 37 towns out of 45 with WPA crews, or a total of approximately 1,500 men.

This fall, owing to our tree troubles, there have not been men available for moth projects except in the town of Acushnet, where there are 20 WPA men working at present. By the first of January there will probably be at least 20 more towns working on moth projects, as there were towns in the eastern part of the counties that were not sufferers from the hurricane to a great extent. With some exceptions the hurricane is not going to materially affect our moth condition. For the same number of caterpillars there will be less foliage so that there may be defoliation where there would not be otherwise, because it is generally believed that any eggs scattered by the storm will hatch as well as though not disturbed.

There may be a tendency on the part of the towns owing to the costs of tree work, to reduce their appropriations on moth work.

Division 3—M. H. Donnan, Division Superintendent

The worst gypsy moth infestations in Division 3 are in Beverly, Danvers, Essex, Hamilton, Ipswich, Lynnfield, Saugus and Lynn. Inland towns are really more heavily infested than those along the ocean front. Both sides of the Newburyport Turnpike have been bad for several years now. The North Shore colonies have produced more infestation at this time than for nearly 25 years past. North Shore men are finding a lot of soft egg masses, more so than in any of the other towns, and many small egg masses regardless of the degree of infestation. There do not seem to be as many brown-tail moths as last year. The elm beetle was bad in every city and town in this division, the worst in years, regardless of good spraying done. The satin moth seems to keep just about the same; the Oriental moth is gaining in general; the tent caterpillar is not any worse; the beech scale is spreading on Cape Ann; the oak skeletonizer is greatly improved.

NORTH SHORE WOODLANDS

There is the largest increase in gypsy moth in these colonies that there has been for the past 12 years. Six different colonies and wood roads were completely defoliated this past summer, the first stripping since 1916. It looks bad for the future, as more egg masses are in evidence than at any time since 1915. No brown-tail moths were seen in the woodland. A big improvement is shown in the oak skeletonizers. The cedar apple rust is showing up on the edges of several of our colonies. There is very little forest tent caterpillar. The beech scale is increasing very much, extending north from Forest Lane, West Gloucester to Beverly Cove, in both woodland and residential sections; a strip 12 miles long is very badly in-

fested. No brown tail moths have been seen in the woodland. Thousands of trees were blown down by the hurricane.

Results of hurricane of September 21, 1938. In my opinion the hurricane will cause the secreting of gypsy moth egg masses through the medium of cracks in the trunks and limbs, also the falling of dead limbs and exposed root systems, as well as countless thousands of egg masses being jarred from fallen trees, limbs, etc., only to lie on the ground and hatch next spring. I believe it is very essential to pick up and burn all débris as far in from roadsides as possible on WPA moth projects before snowfall or early next spring.

The same is true of the brown-tail moth, for without question, branches holding webs by the thousands were broken off and carried to great distances from orchards, and even into nearby woodlands, there to lie and hatch. A large strip bordering all roadsides should be carefully inspected for fallen egg masses and webs before next spring's hatching. There is no question but that many trees now standing as well as limbs that seem to be secure, will surely fall when the weight of ice and snow becomes a reality with gales of wind this coming winter.

Division 4—John E. O'Doherty, Division Superintendent

The area of gypsy moth defoliation in Division 4 was considerably less than a year ago. The total woodland area in 1937, showing slight to complete defoliation, was 8,506 acres, while in 1938, a total of 4,423 acres was partly or totally defoliated.

With three exceptions, all cities and towns in Division 4 took advantage of the availability of Federal funds for insect control work and operated WPA moth projects in woodland areas. From December 1, 1937 to July 1, 1938, there were 31 WPA moth projects crews engaged in creosoting gypsy moth egg clusters and tent caterpillar webs, cutting brown-tail webs and cutting and burning brush. In only a few towns was any woodland spraying done by the WPA.

The minimum number of men employed on WPA insect control projects was 87 in January, and the maximum number of 900 was reached in March.

Brown-tail moth conditions showed continued improvement. WPA and local moth crews collected and destroyed 207,704 webs in their respective towns. This number is approximately 50% less than the amount cut in 1937. Elm leaf beetle showed heavy feeding in all but two towns. Forest tent caterpillar showed light feeding in one town. Tent caterpillar conditions showed considerable improvement. Fall web worm feeding was light. Satin moth conditions are good. Only one town showed more than very light feeding. Canker worm showed light feeding. Willow beetle is prevalent throughout the Division.

From the CCC camp in North Andover an average of 35 young men were engaged in scouting in the Harold Parker Forest between November 1, 1937 and March 3, 1938. During a short period in June some roadside spraying was done in the same area.

In the Middlesex Fells Reservation about 100 WPA employees and 40 young men from the CCC camp in Saugus were engaged in creosoting during the winter and spring. Considerable spraying was also done by these crews under the supervision of regular MDC employees.

At the present time in Division 4 there are 12 cities and towns operating WPA moth projects, employing 334 men.

No funds were available for creosoting state highway trees this fall and as a result some badly infested sections must remain untreated. Local superintendents in many instances have been delayed in their usual creosoting this fall, due to the fact that they also act in the capacity of tree wardens and a great deal of time has been spent repairing or removing storm-damaged trees.

The hurricane of September 21, 1938 has added tremendously to the task of efficient gypsy moth work in the woodlands. What once were forests or woodlots are tangled heaps of splintered trunks and limbs concealing an inestimable num-

ber of gypsy moth egg clusters that cannot be treated with arsenate. Even after the long task of clearing fallen timber is completed in the areas hardest hit, a task that will be long in the doing, many thousands of arsenated stumps will remain, affording ideal harbors for deposits of gypsy moth eggs.

In the regions where the worst fire hazards exist, the CCC and WPA have men at work clearing and burning. One cannot calculate the number of gypsy moth egg clusters that will be dislodged from the trunks and branches in the process of restoring order in the woodlands. There are a great many clusters on the trees, especially in the woodlands, to be broken. It is reasonable to believe that in many instances the damaged clusters are a result of being brushed against or struck a glancing blow by twigs or branches during the hurricane fury. In every case where these eggs have been or shall be caused to fall to the floor of the forest they will eventually be covered by nature, and ideally protected from natural or artificial destruction.

Division 3—F. W. Marshall, Division Superintendent

The gypsy moth infestation in this division showed a large decrease this year. Thirty-five cities and towns were treated with defoliation of from 30 to 255 acres and a total of the division 7,582 acres as against 12,146 acres for 1937. There is a marked decrease shown in egg deposits this fall, but they are very large in size and healthy.

From January 1938 to June 1938 there were 36 WPA projects in operation with a total of 1,529 men employed in crosscutting and chipping in the woodlands and some spraying was done in 5 towns with WPA crews. I am sure that results from this operation were better than in past years; however, there is much room for improvement in this type of work.

The brown-tail moth situation seems somewhat improved. Scouting and cutting of webs was done by WPA and local crews. There were 3,083 webs cut and burned as against 24,711 in 1937. It seems unfortunate that there was no brown-tail project from the U. S. Department of Agriculture this past year, as it would have been possible to have removed some of the centers of infestation by removal of favored food plants as in the past. Satin moth was noted in small numbers in 17 localities as against 14 last year. The orchard tent caterpillar was not as bad this year; local crews and WPA crews destroyed it by cutting, burning and crosscutting 124,329 webs of this pest. The forest tent caterpillar was not as destructive this year, showing only in two localities. The elm beetle was very destructive over the entire division, the worst seen for many years. Canker worm was noted in only two localities; constant and careful spraying has held this under control and decreased it. Fall web worms were very few and were noted only in a few localities. The willow beetle was very destructive and was general over the entire division. The Oriental moth did some noticeable damage in Everett, Milleden, Somerville, Medford, Arlington and Cambridge. The oak twig pruner was very destructive in Ashby and Ashburnham. The army worm was noted in Grafton and Townsend.

State highways were sprayed very carefully this past spring and on a number of highways it was necessary to drag hose to the top of banks to reach the infestations. There was no defoliation on any state highway in the division this past year. Because funds were not available the necessary crosscutting has not been done on the state highways this fall. It is very necessary and should be done in the spring if the highways are to be kept in good condition.

The necessary crosscutting was done in the Willard Brook State Forest by the Townsend CCC camp. The reservation and surrounding woodlands were sprayed under personal supervision. Conditions in and around the reservation this past summer show the effective work done there.

No scouting or spraying was done in the Leominster Forest and this reservation

should have attention this coming year or it will be in the same condition as it was back in 1933.

The hurricane in September did great damage to the woodlands and conditions are such at the present writing that in some places it is impossible to do any work. The fallen trees and brush will have to be cleaned up before any effective moth work can be done. The carting of wood from the roadsides without treatment of the egg masses is going to cause a general spread of moths into residential areas. The dumping of brush and stumps in dumps and vacant lots without treatment will tend to spread the moths. The practice of piling and leaving hardwood brush from fallen trees will hinder the future work and also allow many egg masses to reach maturity. The action of the wind on many trees, I believe, broke the egg masses and carried them many miles through the air. A great many of these eggs will hatch and start new colonies. Many requests have been received from property owners to give information regarding the clearing of their woodlands and also regarding the care of the shade trees damaged by the storm.

Division 6—H. L. Ramsey, Division Superintendent

In common with other areas, the territory covered by Division 6 showed a large decrease in acreage defoliated by the gypsy moth this year. Only 30 towns out of the 64 showed stripping in all degrees and the total of 5,643 acres is only 24% of the 1937 acreage. Of these 5,643 acres only 320 were completely stripped as compared to 690 acres in 1937. Also, where only 3 towns escaped heavy feeding in 1937, 34 towns in 1938 showed very little if any feeding.

This large decrease in feeding area, coupled with the long rainy period in the egg-laying season, should have shown excellent results toward a further possible decrease for next year, and apparently it did, as a large per cent of the new clusters were quite small. Also the number of moths found that had died before completing their depositing would indicate that the unfavorable weather had at least affected the females. Offsetting this, however, was the fact that a much larger quantity of clusters were laid on leaves and small twigs than has been noticeable for several years. This was especially noticed in the northern and northwestern areas adjoining Division 7. The September storm distributed these clusters in all directions and as the same storm laid down ample cover for winter protection we can assuredly expect all of them to hatch next spring.

Another unexpected distribution factor, noted even before the September storm was the large number of broken and disturbed egg clusters. This was noted personally as early as mid-July, and was also reported on over a large area by many of the town superintendents.

Moth projects were in operation in 27 towns, ranging in duration from 2 weeks to 3 months, with a total employment of 337 workers. Only 2 of these 27 crews really amounted to anything on scouting and creosoting, but in the last two weeks of the season 17 of these crews confined their activities to a campaign against tent caterpillars and the result was very noticeable. Public comment was expressed in several areas. There are no WPA moth projects working this fall in Division 6 and none in prospect.

The elm beetle got in some very destructive work all over the division this year. A decrease in brown-tail infestation was noted previous to the hurricane. However, after the storm only 7 webs could be found in one yard where over 200 were counted less than a week before the storm. Satin moth and canker worm showed a slight increase, and the forest tent caterpillar, although found over a larger area, showed no increase in damage.

Division 7—Grover C. Twiss, Division Superintendent

The gypsy moth infestation showed a large increase west of the Connecticut River this past summer in woodland areas. The largest amount of complete de-

foliation took place in Holyoke, Mt. Tom Reservation, about 1,200 acres of woodland being completely stripped. The towns of Russell, Southampton, Westhampton, Hatfield, Williamsburg, Whately, Deerfield, Leyden and Bernardston also had small areas completely defoliated. The city of Northampton had a small area completely defoliated.

The gypsy moth conditions along the east side of the Connecticut River showed a decrease of complete defoliation this past summer over other years. New infestations are being found by local moth superintendents in the towns of Worthington and Middlefield, and this is the first time a local moth superintendent has been able to find egg clusters in Middlefield.

There will probably be more complete defoliation east of the Connecticut River next summer due to the number of trees blown down by the hurricane which in many areas greatly reduced the amount of foliage; also because no creosoting is being done this winter in these woodland areas, unless we get some very cold weather to reduce the hatch next spring.

The forest tent caterpillar was very abundant again this year in Berkshire County. The areas that were stripped a year ago were not as badly stripped this year. Many dead limbs were noticed on rock maple trees this summer, which was due to the heavy stripping in 1937. Conditions east of the Berkshire County line were about the same as a year ago. The orchard tent caterpillar showed a decrease in some towns in the northern part of this division, while towns and cities through the center and side, showed an increase. A great many tent caterpillars were creosoted by WPA crews last May. The canker worm was not as abundant this past summer as in previous years, but was found throughout the four western counties; a very little stripping was found. The elm leaf beetle is on the increase in this division and considerably more feeding was found this past summer. Satin moth is increasing in this division, especially in Northampton, Holyoke, West Springfield and Chicopee. Six large poplars were completely stripped in Pittsfield this past summer. The fall web worm showed a little decrease this past fall. No brown-tail moths have been found in this division. The Oriental moth has not been found in this division to date. The green striped maple worm showed a decrease, and very little complete stripping was found this past summer. The willow leaf beetle was not as abundant this past summer in this vicinity.

REPORT OF THE STATE FIRE WARDEN

MR. ERNEST J. DEAN, *State Forester*.

Sir: In compliance with the provisions of section 26, chapter 48 of the General Laws, I submit herewith a report of the work accomplished by this branch of the division during the past year.

During the winter months and under the direction of John P. Crowe we assembled two large fire trucks equipped with 150-gallon power take-off pumps and a 275-gallon Booster tank. These trucks also carry 4,000 feet of 1½" hose and 500 feet of 1½" hose. One of these trucks is located at the Dighton Fire Station under District Fire Warden John H. Montle and the other is at Wareham with District Fire Warden William Day. The three patrol cars located in Barnstable and Plymouth counties were repainted and later in the season at the request of the County Commissioners of Plymouth County a second patrol car was authorized for use in the northern part of the county. This car was assembled and equipped with power pump, hose and radio and placed in use for fall fires.

In the early part of January we procured the services of Mr. Earl F. Whiddon, an outstanding radio technician, whose time is devoted entirely to radio construction and installation. Additional radios were installed in Harwich, Bourne, Sharon, Harvard, Princeton, Phillipston, Oxford, Westborough and Brimfield towers. They were also installed in the district wardens' cars in districts 5, 6, and 7.

During the months of December and February meetings of the forest wardens

were held in Great Barrington, Adams, Shelburne Falls, Westfield, Petersham and Stow. These meetings included the forest wardens of the various districts and they were given instructions by members of this department relative to their duties and what was expected of them.

It is with sincere regret that it became necessary to discontinue the services of the following forest fire observers who had arrived at the age of seventy; Walter J. Acker, Oxford; H. H. Fitzroy, Savoy; Leon S. Gifford, Georgetown; William Hayden, Westborough; M. E. Richardson, Sunderland. These men have been in the service many years and their loyal cooperation in detecting and reporting fires has been very commendable.

As a result of a Civil Service examination for the position of District Fire Warden Mr. Abraham L. Estes of Worcester was selected to fill the vacancy in district No. 8, and was later transferred to Barnstable County, filling the position formerly held by the late Lincoln Crowell. Mr. Estes has had a wide experience in handling fires, is a good organizer and we expect will fill the position to the satisfaction of all.

The position of District Fire Warden made possible by the transfer of Mr. Estes to Barnstable County has been filled by the appointment of Mr. Charles J. Glavin of Worcester. Mr. Glavin has been a member of the Worcester Fire Department for 20 years and has had a great deal of experience in forest fires and should also make an ideal man for the position.

The spring fire season started about three weeks earlier than usual and we had an exceedingly large number of fires during the month of March and early April.

With the exception of a large number of incendiary fires in Plymouth and Barnstable counties the spring fire season was rather favorable as far as damage to forest lands is concerned. The incendiary fires in the above counties started early in April and, while every means of detecting the culprits has been exerted, they are still at large.

The most unfortunate fire started on National Guard lands in Sandwich on April 27 and was caused by an unextinguished fire left by WPA employees on the previous day. This fire caused the death of Gordon H. King and Thomas G. Adams of Sandwich, Raymond O'Donnell of Wareham and Erving A. Draper of Buzzards Bay, and Harry Jarvis of Sagamore. This, without question, is the greatest loss we have ever experienced at a forest fire in this Commonwealth and only confirms our repeated warnings year after year to use extreme precaution to completely extinguish all fires before leaving them and to discontinue discarding all lighted matches and smoking material. Life and property are at stake when an outdoor fire is carelessly handled. A bronze tablet is being placed on the Shawme-Crowell Forest in memory of the four men who lost their lives in the serious spring fires on that forest.

Other disastrous fires were experienced in Barnstable and Plymouth counties, as well as in the towns of Townsend, Groton, Upton and Billerica, together with over 2,000 fires covering small areas in various parts of central and eastern Massachusetts.

The work during the summer months was devoted largely to the maintenance of our fire towers, telephone lines and water holes.

A new 48-foot tower was erected at the summit of Baldpate Hill in Georgetown replacing the old 30-foot tower that has served its usefulness. This new tower will give adequate protection to the large area in that vicinity.

Inspections were made of nearly all the water holes on state forests and where necessary they were cleaned out and placed in condition for future use. It was also necessary, in many instances, to resurface roads within the state forests, thereby making them passable for fire equipment.

A large number of towns throughout central and eastern Massachusetts have

purchased up-to-date combination forest and building fire trucks this year. These trucks are similar to the ones in use by this department and carry from 200 to 300 gallons of water, being equipped with power take-off pumps as well as portable pumps.

At the suggestion of the State Foresters, the U. S. Forest Service conducted a power pump test on August 23 and 24 at Stephenstown, New York. The group in attendance, in addition to Forest Service officials included representatives from the New England states and New York. The pumps used were the various types in actual use in the above states and were not furnished by pump manufacturers. Included were 14 different makes and types. The tests were made through 2,500 feet of 1½ inch unlined linen hose to an elevation of 300 feet and data was taken on the various speeds, pump pressure, nozzle pressure and length of stream thrown. While the detail results are only for the Department's information they were satisfactory. This Department was represented by District Warden Charles L. Woodman and the pumps furnished were the Darley 200-gallon power take-off pump and the Fitzhenry Gupstill portable pump.

The fourth Annual Forest Fire Conference sponsored by the Forest Fire Committee, New England Section, Society of American Foresters, was held in New Hampshire on September 8, 9 and 10. The party consisted of about 75 people, including members of the U. S. Forest Service, representatives from the States of Connecticut, Maine, Maryland, Massachusetts, New York, and New Hampshire, together with many fire wardens and others interested in forest fire control. The delegation met at Nashua, September 8, and the days following were taken up in inspecting fire towers, several burned-over areas, demonstrations of various types of power equipment used by the Forest Service and the State of New Hampshire, the New Hampshire State Nursery and several recreation reservations. An evening meeting was held at Pasquanay Inn. Fire talks were given by the various Federal and state representatives, largely along the line of improved organization in the handling of fires and the location of forest fire towers.

We have had 2,280 fires burning over an area of 20,607 acres with a damage of \$48,213.75 and a cost to extinguish of \$34,707.68.

The hurricane of September 21 did an immense amount of damage; three-quarters of the white pine area, together with a large amount of hardwood throughout the central part of the state, is down. Without doubt the worst blow-down was at Petersham, Warwick and Winchendon, where entire areas of white pine are down. With the exception of Sturbridge, Billerica and Stow, the blow-down in other parts of the state is more or less scattered depending largely on the amount of pine in the various towns. What effect this will have on spring fires is hard to determine at this time.

A large amount of work is being done by U. S. Department of Agriculture, CCC boys and WPA men in clearing back 50 to 100 feet from the roadside. If this work can be carried on until spring and then the same effort be exerted to prevent fires as has been carried on since the blowdown, it will be of immense help during the spring fire season.

We were very unfortunate in losing 10 large 60-foot observation towers. These were in the direct line of the storm and could not resist the wind. They have all been replaced by temporary wooden ones that will take care of the present situation but will later be replaced by steel towers.

It is necessary that we have additional equipment, and arrangements are being made at the present time for the purchase of several pieces of equipment which will be placed at dangerous points throughout the area.

We had a very heavy damage to our telephone lines, radio sets, towers that remained standing and roads and fire lines leading to waterholes that will be taken care of as fast as possible.

The woods throughout the central part of the state were closed and this together with the determination of the general public to be on the alert and not start fires has certainly demonstrated what can be done in such an emergency.

An additional patrolman was put on in Plymouth County late in the season. This gives the county 2 patrolmen which is very essential as Plymouth County carried an extremely bad fire hazard.

The forest wardens' organizations throughout the central part of the state have been holding some very instructive meetings. They were well attended and very interesting. Field day meetings were held during August in Clinton and Acushnet Park in New Bedford which were well attended and everyone had a very enjoyable time. This department certainly appreciates the cooperation we receive from these organizations.

Our Federal appropriation for the year was \$25,749 under the Clark-McNary Act. We were, of course, disappointed as with an extra Federal allotment of \$500,000 we received practically no increase in our allotment.

I desire to express to my associates in the work my sincere appreciation for their fine cooperation.

The following tables show the comparative damages, costs, etc. for the past three years.

Respectfully submitted,

M. C. HUTCHINS,

State Fire Warden

FOREST FIRES FOR THE PAST THREE YEARS

<i>Year</i>	<i>Number of fires</i>	<i>Acreage burned</i>	<i>Cost to extinguish</i>	<i>Damage</i>	<i>Average acreage per fire</i>	<i>Average damage per fire</i>
1936	1,466	13,192	\$26,866.00	\$45,952.56	9.00	\$31.35
1937	2,066	22,249	34,509.31	39,291.99	10.76	19.60
1938	2,280	20,067	34,707.68	48,213.75	8.80	21.14

TYPES OF CLASSIFIED DAMAGES

	1937	1938
Standing trees, merchantable	\$14,062.00	\$21,093.00
Standing trees, not merchantable	16,113.15	16,042.75
Brush land	980.00	150.00
Lumber and cordwood	896.00	6,680.00
Buildings and improvements	7,240.84	4,248.00
Total	<u>\$39,291.99</u>	<u>\$48,213.75</u>

TYPES OF LAND BURNED OVER (ACRES)

	1937	1938
Timber	4,674	3,738
Timber, not merchantable	7,595	4,493
Brush land	7,435	9,523
Grass land	2,545	2,313
Total	<u>22,249</u>	<u>20,067</u>

FOREST FIRES FOR THE YEAR 1938

<i>Months</i>	<i>Number of fires</i>	<i>Acreage burned</i>	<i>Cost to extinguish</i>	<i>Damage</i>
1937				
December	11	27	—	\$45.41
1938				
January	19	29	\$135.00	79.14
February	74	155	258.00	324.86
March	838	3,837	9,070.00	9,240.55
April	851	13,629	30,485.25	17,657.30
May	305	2,056	6,793.50	5,465.39
June	45	134	746.00	433.33
July	24	22	—	191.24
August	13	7	—	109.25
September	21	8	10.00	304.20
October	56	148	716.00	723.01
November	23	15	—	134.00
Total	2,280	20,067	\$48,213.75	\$34,707.68

CLASSIFIED CAUSES OF FOREST FIRES, 1937-1938

	1937		1938	
	<i>Number</i>	<i>Per Cent</i>	<i>Number</i>	<i>Per Cent</i>
Railroad	95	4.59	142	6.22
Smokers	363	17.58	793	34.77
Débris	861	41.67	623	27.33
Incendiary	122	5.91	356	15.62
Children	253	12.25	286	12.55
Other causes	372	18.00	80	3.51
	2,066	100.00	2,280	100.00

PART III

The sixth annual report of the Division of Parks is herewith submitted.

Roland C. Nickerson State Forest Park (Brewster)

CIVILIAN CONSERVATION WORK, CAMP SP-19

The Park road system was extended another one and one-half miles along Nook road, making possible the development around Cliff Lake to the south and west. In connection with this road construction was the project of seeding and sodding the bank slopes and also the installation of guard rails. The seeding and sodding was a continuation of the type applied to all previous slopes, namely the application of pine needles, forest duff, and forest turf. Two acres were completed in 1938. Guard rails constructed of oak posts and logs were installed for a distance of 252 rods along Nook and Deer Park Roads. In addition 117 rods were installed in parking areas at the Lodge and around Flax Pond. Two parking areas, one at the Lodge and one adjacent to the picnic area were constructed, totalling 6,297 square yards. Capacity of parking area at picnic site, 83 cars. A service road to Tent Area No. 1 on the west side of Flax Pond was completed, a distance of 2,100 feet; a second service road to Tent Area No. 2, on Flax Pond, about 75% complete, a distance of 2,500 feet. A new approved road to the Lodge from Flax Pond Road was constructed, approximately 800 feet.

Around the Lodge, bathhouse, and parking areas, 2 acres were landscaped with native plant material. The Lodge or combination building was completed

in 1938. The bathhouse of colonial design, located on the south side of Flax Pond, is about 90% complete. In connection with this project a 3,000 gallon sewage and waste disposal system was completed; also a pump house and pump to supply water to the 20,000-gallon concrete water tank. This tank will supply the water to the bathhouse and adjoining picnic area.

Electric power line was constructed to the bathhouse and pump from the power line to the Lodge, a distance of about 500 feet. A half acre of beach was improved in front of the bathhouse. Fifteen additional fireplaces were constructed around Flax Pond. Throughout the park at important locations, 20 hand carved oak signs were set up.

Our program of insect pest control consisted of treating egg clusters with creosote over an area of 600 acres. This area was later covered by spraying with arsenate of lead. The results achieved by consistent war against the gypsy moth have been most gratifying. Seventy-five acres were spot planted with 52,000 seedlings of white pine. At the Shawme-Crowell Forest, 137,000 seedlings were planted over 150 acres. These consisted of white pine, red pine, and spruce. During 1938, approximately 475 acres of fire hazard reduction were completed, and 2 miles of old roads were brushed out for use as fire lanes into a section of the park which has a high fire hazard.

Robinson State Park

Though this park is as yet undeveloped, the average attendance in July over week-ends was 4,782 persons daily, and on some days the visiting automobiles numbered 1,905. The Trestle Area is the only place where swimming is at present enjoyed by the public, but on some days over 500 were counted at this small beach on the Westfield River. Many children use the water holes for this purpose.

In the early part of 1938 the picnic area in the Provin Mountain section was completed with 50 fireplaces and table and bench combinations. In this area, as in all others, care has been taken to preserve the forest cover and shrubby ground cover. Beech, maples, hemlock, mixed with sweet and paper birch of the Northern woods mingle with giant white pines and the oaks, tulip trees and flowering dogwoods usually found farther south.

White selective cuttings for effect were undertaken, this has been done so that none of the natural beauty has been spoiled. Opening to let in sunlight and opening of vistas out of the areas have added much to these portions of the park. A 2½-inch water pipe provides water from the Springfield water system to the Provin Mountain picnic area. A stone comfort station with an excellent sewage disposal plant is nearing completion in this area and the large picnic shelter will be completed by next season.

Beginning January 1938, all work of the V. C. C. Camp stationed here was confined to moth control, roads and embankments and fire hazard reduction. With the coming of spring, forestry work was temporarily dropped and work was confined to construction, surveys and planting.

A pipe line to furnish water throughout the Trestle Area was started and at the present time is complete to the border of the area. This line will furnish water to the picnic area for drinking and to the entire Trestle Area for other uses.

In May, the main road to the Trestle Area was under construction and now is nearly complete to the section where parking areas, picnic areas and a swimming pool, as well as a bathhouse and comfort stations are proposed and roads, parking areas and picnic areas are now under construction.

In June, work was started on the river road ending in a traffic circle joining the entrance road to the Provin Mountain Area. This work has been completed and provides a beautiful drive.

During the summer months, work was confined to the buildings in the Provin Mountain area and Trestle Area road.

On September 21, a flood of greater proportions on the Westfield River than that of 1936 flooded some areas of the Park but damage was greatest on the river road where a heavy deposit of silt was left. Receding waters showed some damage to guardrail fences and culverts.

On the same date, the hurricane that struck New England blew down or so damaged more than 1,000 trees that they required taking down.

Immediately, emergency work of the V. C. C. Camp consisted of clearing all roads of fallen trees. While part of the personnel of the camp have been doing emergency work in nearby cities and towns, those stationed here have been rapidly working on and clearing up the dangerous fire hazard.

Robinson State Park

CIVILIAN CONSERVATION WORK, CAMP SP-24

The winter months in 1938 were spent doing forestry work on the area. Three hundred and twenty-two acres were covered by a selective cutting job and a crew scouted the entire area of 1,000 acres on gypsy moth work.

In the spring 10,000 seedlings were planted over a combined area of 10 acres, and 300 trees and shrubs were planted at the camp entrance. Two hundred acres were also covered by a blister rust crew. The River Road from the camp along the river to the Provin Mountain Area, 6 miles long, that was started in the fall of 1937 was completed and connected with the Provin Mountain Road, built in 1936, by a traffic circle .1 of a mile in circumference. Altogether 50 rods of guard rails were built to protect cars using the completed roads.

During the summer of this year work was begun on .6 miles of park road to the Trestle Area. This section of road is a continuation of the .4 miles of road built in 1937 from North Street to the north toward this area. Two thousand two hundred feet of water line was laid from the Springfield water main to the Trestle Area and wash boring tests were made at a proposed dam site there.

Development work in the Provin Mountain Area was carried on. A sewage disposal system was completed and a stone latrine and picnic shelter partially completed. An investigation has been made and a preliminary report submitted regarding a proposed dam on Cordes Brook near the present camp area. We carried on a job called "Recreational Guide Work" and tabulated park use and attendance. Our figures show that 89,769 people used the park from June to September, 1938.

After the hurricane in September most of the time was spent on emergency work. We helped the City of Springfield remove blown-down and leaning trees from the city streets and carried on fire hazard reduction work in Springfield, Longmeadow, East Longmeadow and Hampden. A total of 330 acres have been covered to date.

Salisbury Beach Reservation

During the months of December, January, and February, the WPA project, which had previously completed the large parking area on the southern tip of the reservation, commenced the task of filling the camping and tenting area adjacent to the parking space. Thousands of cubic yards of sand were taken from the ridge of dunes west of the road and much of the low marsh surrounding the salt water pond was filled and partially gravelled. Although the number of men employed on this project varied from less than 100 to well over 200, seven 1½-ton trucks were allotted to this job. All hand loading and leveling with sometimes more than a foot of frost made progress slow.

Work on the combination bathhouse and comfort station was temporarily stopped until spring months when cement work and carpentry would be more feasible. The Commonwealth of Massachusetts furnished one truck and operator and one watchman to the grading project while the Federal Government through the WPA furnished the men and the balance of the equipment. One of the life

saving boats loaned to the Department of Public Works for survey work in connection with the ocean front was smashed in rough seas and was replaced by that department shortly afterwards.

With the coming of spring, work was again started on the bathhouse, so that, by June 7 this building was open to the public. In March, the work of repainting life boats, towers, preservers, and life-saving equipment was done and repairs made on the boats. In April, the new larger life guard quarters and first aid room in the center were refinished.

During May, arrangements were made for the location of the CCC camp, and the transfer of men to Salisbury was made early in July.

Mr. J. Andrew Walsh took over the administration of the beach June 1, 1938. The life guard stands were increased by 2 in number, making a total of 10. The locations of the stands were changed to furnish better control over the entire beach. The telephone company installed a new type loud-ringing gong, at each station, which proved to be entirely satisfactory.

The general spirit of cooperation and good will among the forces was excellent. We feel that our crews were very capable and conscientious and have earned the right to re-employment when the time comes.

The first aid cases treated numbered 523. Of this number, abrasions, lacerations, burns, and incised wounds were most numerous. The name and address of each patient treated, together with the nature of the injury and treatment given, and the name of the employee giving first aid, are kept as a permanent record in the files at the Reservation Office.

One fatality resulted during the season, that of Mrs. Annie W. Miles, aged 83, who died on the beach at the North End, from an acute heart attack.

An artificial resuscitator of the latest type was demonstrated this year at the reservation. This demonstration was held at the first aid room and was attended by the State Police, Salisbury Police, Salisbury Fire Department, Hampton Beach Life Guards and our own Life Guards and Beach Patrol. It seemed to meet with general approval and was demonstrated to be superior to the present model on hand. Recommendations were made in our 1939 budget for the purchase of one of the new type machines.

The WPA project was still under construction June 1, 1938 and much delayed. After a conference with the Field Engineer of the WPA staff, we were able to rush this to completion by June 18, 1938 when it was opened to the public, with one male and one female attendant in charge. An accurate daily record was kept, for recreational survey purposes, of all patrons, and record of the weather each day. During the period from June 17, 1938 to August 17, 1938, 47,359 persons used this facility, either for dressing room or toilet purposes.

Since no accommodations had been furnished for checking clothes no charge was made up to August 17, 1938. On this date, steel wire baskets with steel racks were received from the manufacturer and installed. From August 17, 1938 through September 6, 1938, 7,084 persons patronized the bathhouse, making a total of 54,443 people who used the facilities, from the opening date, June 17, 1938 through the closing date, September 6, 1938.

At the parking area in the center at Broadway and Beach Road, 14,927 cars and busses were parked, with attendant supervision at 15 cents each, bringing in a total of \$2,239.05. This area has never been properly laid out as a parking space. It was our intention to do this during the winter of 1938-1939 but both CCC and WPA programs were crowded and it will have to wait until a later

date. No attempt was made to keep an actual count of the cars parked at the south end, although an occasional count was made by the men assigned to that area. On a conservative basis at least 120,000 cars were parked in the parking areas at the south end. Since the facilities are not ready for public use, no charge is made for this parking although attendants are on hand to preserve order in parking and prevent general disrobing in vehicles. All parking areas are now illuminated by flood lights.

One conservation officer and 6 deputy conservation officers were appointed during the 1938 season at Salisbury Beach Reservation. One of this number was the first woman deputy conservation officer to be appointed in the Commonwealth, assigned as matron at the bathhouse. While breaches of the peace and violations of the reservation rules and regulations were very few and minor in nature, the presence of these deputies, with badges showing, was responsible for the general good conduct of the people visiting the reservation. On the highways leading to the reservation, general order was maintained by the State Police. This latter organization was extremely helpful in preserving peace and good order and worked very closely with our forces. Many problems arose, and were settled to the mutual satisfaction of all concerned, due to the excellent cooperation of the State Police. The same cooperation existed with the Salisbury Police during the current municipal administration.

CCC, NATIONAL PARK SERVICE SP-26

Upon the establishment of a CCC camp at Salisbury Beach, a work program was arranged to further the general development of Salisbury Beach Reservation. Job priority had to be given to the construction of a camp entrance road which used most of the man power available, since a side camp was being maintained at Upton, Massachusetts. One of the first jobs completed was the removal of the wreck of the "Jennie M. Carter" from the beach in the center.

Another job completed was the removal of the concrete foundations, old walls, pipes and general debris resulting from the razing or removal of cottages from the south end.

The camp entrance road was completed and full strength was put on the construction of a circuit road around the trailer and tenting area as shown on the General Plan. This road is still under construction. In addition, loam is being transported and piled in a huge storage pile near the south end for future use in planting areas. About 1,000 yards have been piled and about 1,000 yards remain to be transported from a lot given to the state by a local citizen.

Heavy equipment, consisting of 2 bull-dozers, 4 seven-yard trucks, 16 two-yard trucks, 2 power shovels, and 2 tractor trucks have been brought into use by the National Park Service. With this equipment, and some not yet arrived, there seems to be little doubt that this agency may be expected to complete the development, providing the Commonwealth will participate with additional funds for materials and skilled labor.

Much credit is due the Camp Superintendent, Patrick J. O'Malley, for the efficient manner in which he had coordinated his forces and established such a record in a short time, which has elicited many favorable comments.

Standish Monument Reservation

The Standish Monument Reservation at Duxbury was a particularly popular spot during the summer months and a register kept at the monument contains the names and addresses of thousands of people who visited the Reservation coming from practically every state in the Union and from some foreign countries. The monument was repaired inside and out during the year to overcome leakage during rain storms and the interior should present a more attractive appearance next season.

APPENDIX

FINANCIAL STATEMENT OF RECEIPTS AND EXPENDITURES FOR YEAR ENDING
NOVEMBER 30, 1938

Appropriation	Amount	Balances and Credits	Expendi- tures	Balance to 1939	Balance to Treasury
Dept.. of Conservation:					
Salary of Commissioner . . .	\$6,000.00	—	\$6,000.00	—	—
Commissioner's Travel . . .	800.00	—	712.45	—	87.55
Administration—Services . . .	2,200.00	—	2,067.31	—	132.69
Administration—Expenses . . .	2,400.00	130.93	2,413.12	—	117.81
Div. of Forestry					
Personal Services	15,240.00	—	15,206.35	—	33.65
Office Incidentals	9,800.00	—	9,732.13	—	67.87
Development of State Forests	151,840.00	1,795.60	150,533.29	3,102.31	—
Suppression of Gypsy and Brown-tail Moths	50,200.00	4,822.56	55,022.56	—	—
Prevention of Forest Fires . . .	74,600.00	32,491.15	107,091.15	—	—
Reimbursement for Fighting Forest Fires	300.00	—	—	—	300.00
Protection Against Forest Fires	1,000.00	1,393.34	2,393.84	—	—
Forest Fire Patrol	6,285.00	—	5,578.06	—	706.94
Specials:					
Investigation Relative to Provid- ing Propagation of Lobsters . .	2,500.00	—	1,362.11	1,137.89	—
Investigation Relative to the Pocasset Wampanoag Indians . .	100.00	—	41.84	58.16	—
Works Progress Administration on State Forests	10,000.00	—	9,988.07	11.93	—
Construction of Middlefield Dam	15,000.00	—	1,914.52	13,085.48	—
Expenses of Land Purchases . .	—	18,471.45	15,172.44	3,299.01	—
Totals:	\$348,265.00	\$59,105.03	\$385,228.74	20,694.78	1,446.51
Division of Parks					
Personal Services	\$10,800.00	—	\$10,321.75	—	478.25
Expenses	5,900.00	971.75	5,900.34	—	971.41
Standish Monument Reservation	2,000.00	—	1,487.48	—	512.52
Salisbury Beach Reservation . .	19,500.00	63.75	19,533.39	—	30.36
Specials:					
Restoration of Old Derby Wharf	—	30,624.60	30,624.60	—	—
Works Progress Administration on State Parks	25,000.00	7.51	4,883.65	20,123.86	—
Development of Recreational Opportunities	37,000.00	—	35,632.30	1,367.70	—
Repairs to Standish Monument	3,500.00	—	1,371.18	2,128.82	—
	\$103,700.00	\$31,667.61	\$109,754.69	\$23,620.38	\$1,992.54
Federal Forestry Fund					
Prevention of Forest Fires . . .	—	39,511.53	32,491.15	7,020.38	—
Nurseries	—	1,761.73	1,761.73	—	—
	—	\$41,273.26	\$34,252.88	\$7,020.38	—
Specials:					
Forestry, Hurricane and Flood Damage	\$850,000.00	—	\$2,717.21	\$847,282.79	—
Forestry, Hurricane and Flood Damage, Forest Fires	123,000.00	—	700.00	122,300.00	—
Parks, Hurricane and Flood Damage	67,000.00	—	\$420.00	66,580.00	—
Parks, Hurricane and Flood Damage	90,000.00	—	72.00	89,928.00	—
	\$1,130,000.00	—	\$3,909.21	\$1,126,090.79	—

RECEIPTS FOR 1938

Miscellaneous

Sale of Trees	\$ 8,435.60
Examinations	26.50
Maps and Books	23.20
Use of Telephone	119.64
Income u/w of L. M. Standish	95.32
Gypsy Moth Supplies	1.07
Reimbursement from Barnstable County	1,210.62
Reimbursement from Plymouth County	780.93
Fisheries and Game Division	4.77
Damages	204.00
Salvage	25.00
Witness fee	2.00
Receipts on State Forests	
Forest Products, Lumber, etc.	1,779.25
Forest Products, cordwood	5,113.71

Camp Sites	2,082.00
Rents	1,499.50
Recreation	9,672.53
Receipts on Parks	
Salisbury Beach Reservation	2,723.98
Standish Monument Reservation	939.70
Nickerson Park	1,062.85
Robinson Park	14.00

 \$35,816.17

Financial Statement Verified
 Approved:

GEO. E. MURPHY,
 Comptroller

STATEMENT OF EXPENDITURES AND RECEIPTS ON STATE FORESTS FOR THE YEAR
ENDING NOVEMBER 30, 1938

Name of Forest	Planting and Nursery	General Upkeep	Recreation	Surveying & Titles	Land	Totals	Receipts
Arthur Warton							
Swann . . .	\$3.75	\$321.98	—	—	—	\$325.73	\$251.00
Ashburnham . . .	—	1,723.40	—	\$520.10	—	2,243.50	36.14
Barre . . .	—	78.13	—	—	—	78.13	158.32
Bash Bish . . .	—	—	\$28.62	—	—	28.62	—
Beartown . . .	—	2,022.37	418.50	176.88	—	2,617.75	658.00
Becket . . .	—	—	—	—	—	—	—
Billerica . . .	—	—	—	—	—	—	—
Boxford . . .	—	—	—	—	—	—	—
Brimfield . . .	—	96.50	154.94	—	—	251.44	56.95
Campbell Falls . . .	—	—	18.62	—	—	18.62	—
Carlisle . . .	—	33.00	—	—	—	33.00	—
Chester-Blandford	—	2,883.98	1,352.23	24.55	*\$1,576.50	2,684.26	262.60
Clarksburg . . .	—	—	—	—	—	—	—
Colrain . . .	—	—	—	—	—	—	20.00
Conway . . .	—	7.75	—	—	—	7.75	—
D.A.R. . . .	—	244.86	624.98	59.50	—	929.34	75.90
Douglas . . .	—	—	147.25	4.09	320.30	471.64	38.50
East Mountain . . .	—	68.16	376.86	27.96	5.17	478.15	3.50
Erving . . .	759.17	2,622.83	1,310.41	94.13	—	4,786.54	718.20
Federation of Women's Clubs	—	24.15	8.25	—	—	32.40	35.75
Foxborough . . .	—	—	—	—	—	—	—
Franklin . . .	—	—	—	—	—	—	—
Freetown-Fall River	—	81.17	—	6.14	14,454.19	14,541.50	110.00
Granville . . .	—	3,026.68	464.95	—	—	3,491.63	250.45
Harold Parker . . .	—	3,057.30	3,977.03	—	—	7,034.33	1,303.91
Hawley . . .	—	14.25	—	—	—	14.25	341.30
Hopkinton . . .	—	—	—	—	—	—	—
Hubbardston . . .	—	—	—	—	—	—	—
Huntington . . .	—	—	—	—	—	—	—
Leominster . . .	—	264.50	131.62	—	—	396.12	—
Lowell—Dracut . . .	—	8,050.46	—	265.37	5.51	8,321.34	—
Marlborough . . .	—	116.25	—	—	—	116.25	—
Martha's Vineyard	—	5,639.73	13.85	—	—	5,653.58	99.00
Middlefield . . .	—	1,914.52	—	20.25	—	1,934.77	—
Mohawk Trail . . .	—	1,024.96	760.64	—	—	1,785.60	888.65
Monroe . . .	—	460.00	3.50	—	—	463.50	15.00
Mount Grace . . .	—	1,303.53	880.84	—	—	2,184.37	203.25
Myles Standish . . .	431.78	7,007.07	3,118.93	114.80	—	10,672.58	5,447.57
Nantucket . . .	—	—	—	—	—	—	—
New Salem . . .	—	—	—	—	—	—	—
Northfield . . .	—	—	—	—	—	—	—
Oakham . . .	—	149.00	4.00	—	—	153.00	—
October Mountain	—	6,530.86	323.60	60.50	—	6,914.96	1,461.75
Orange . . .	—	—	—	—	—	—	—
Otis . . .	—	151.69	35.25	8.50	—	195.44	27.90
Otter River . . .	220.25	3,277.79	1,571.38	189.50	—	5,258.92	535.25
Oxford . . .	—	—	—	—	—	—	—
Peru . . .	—	9.33	44.00	—	—	53.33	1.95
Petersham . . .	—	—	—	—	—	—	39.00
Pittsfield . . .	—	119.39	783.72	—	25.00	928.11	—
Rehoboth . . .	—	—	—	—	—	—	—
Royalston . . .	—	—	—	—	—	—	—
Sandisfield . . .	—	402.89	251.83	—	—	654.72	228.85
Savoy Mountain . . .	—	1,520.00	53.00	—	—	1,573.00	390.20
Shawnee—Crowell	860.37	5,133.13	—	4.71	12.50	6,010.71	79.50
Shutesbury . . .	—	—	—	—	—	—	16.62
Spencer . . .	17.50	2,747.28	756.19	—	—	3,520.97	151.85
Sudbury . . .	49.00	311.16	—	1.47	66.00	427.63	1.20
Sutton . . .	—	8.50	—	—	—	8.50	74.60
Templeton . . .	—	—	—	—	—	—	—
Tolland . . .	—	166.40	641.45	—	*1,576.50	2,384.35	372.15
Townsend . . .	—	19.00	—	—	—	19.00	—
Upton . . .	—	83.25	4.25	6.00	—	93.50	28.00
Warwick . . .	11.75	352.65	—	206.44	—	570.84	902.50
Wendell . . .	82.50	2,332.93	11.50	8.50	—	2,435.43	954.08
West Bridgewater . . .	—	—	—	—	—	—	—
West Brookfield . . .	—	68.50	—	—	—	68.50	—
Westminster . . .	—	—	—	—	—	—	—
Willard Brook . . .	43.00	2,296.84	2,483.62	—	—	4,823.46	2,801.10
Willowdale . . .	—	1,934.95	—	8.00	—	1,942.95	515.00
Winchendon . . .	—	—	—	—	—	—	—
Windsor . . .	—	27.25	89.25	—	—	116.50	—
Worthington . . .	—	—	—	—	—	—	—
Wrentham . . .	44.00	410.52	—	2.06	155.00	611.58	10.00
Totals . . .	\$2,523.07	\$70,140.84	\$20,845.06	\$1,809.45	\$15,043.67	\$110,362.09	\$19,565.49

*Cost of land transferred from Chester Blandford Forest to Tolland Forest.

State Lots

Name of Forest	Planting & Nursery	General Upkeep	Recreation	Surveying & Titles	Land	Totals	Receipts
Bridgewater (Baker)	—	—	—	—	—	—	\$36.00
Sandwich (Weeks)	—	\$866.25	—	—	—	\$866.25	—

State Forest Parks

Robinson	—	\$1,216.96	\$50.49	\$1,167.02	—	\$2,434.47	\$189.00
Roland C. Nickerson	—	2,146.03	993.76	—	—	3,139.79	1,421.35

STATEMENT OF EXPENDITURES AND REIMBURSEMENTS OF TOWNS ON ACCOUNT OF
GYPSY MOTH WORK, FOR THE YEAR ENDING NOVEMBER 30, 1938

Towns	1938						1939
	Required Expendi- ture	Total Net Expendi- ture	Private Work etc.	Reimburse- ment	Supplies Furnished	Total Amount Received from State	Required Expendi- ture
Ashby	\$417.83	\$417.93	—	—	\$816.75	\$816.75	\$418.05
Ashland	1,183.22	1,183.22	—	—	283.00	283.00	1,072.82
Berkley	345.65	401.12	\$93.00	\$467.20	400.42	867.62	357.80
			*134.00}				
Berlin	423.91	480.00	45.25}	—	411.89	411.89	460.57
Bolton	460.83	659.91	—	—	585.76	585.76	400.19
Boxborough	150.00	150.00	*200.00	—	402.79	402.79	160.00
Boxford	606.65	751.57	308.52	400.00	452.48	852.48	500.37
Brewster	901.77	946.53	91.00	93.50	539.89	633.39	900.00
Carlisle	445.05	600.00	—	302.27	479.60	761.87	458.70
Chilmark	283.60	283.60	—	1,437.50	734.05	1,171.55	284.00
Dennis	1,445.32	1,500.27	222.63	600.00	502.49	1,102.49	1,990.00
			*243.00}				
Dunstable	186.07	196.07	—	300.00	432.97	732.97	184.00
Eastham	500.32	500.32	15.00	300.00	209.89	509.89	560.00
Freetown	589.12	622.60	127.50	400.00	487.53	837.53	683.33
Georgetown	803.33	814.66	529.75	409.60	499.64	909.24	740.31
Halifax	596.90	808.37	*3.84}	499.99	595.63	1,095.62	596.90
			285.49}				
Harvard	1,040.04	1,340.04	—	190.85	587.51	778.36	923.00
Hubbardston	312.79	429.67	70.33	300.00	125.77	425.77	320.00
Lakeville	569.91	714.71	207.00	500.00	865.98	1,365.98	578.20
Lunenburg	923.98	1,188.34	40.65	200.30	341.64	541.94	923.00
Lynnfield	1,614.33	1,615.35	221.50	500.51	727.35	1,227.86	1,688.79
Mashpee	367.09	375.24	74.70	—	344.87	344.87	379.05
Middleton	862.37	1,080.12	56.00	400.00	426.70	826.70	873.47
New Salem	190.50	227.42	—	195.60	—	195.60	172.00
			*39.52}				
Newbury	883.37	888.37	711.84}	300.00	536.77	836.77	914.50
North Reading	1,060.99	1,227.75	1,084.25}	300.00	597.57	897.57	1,010.80
Northborough	843.39	865.60	—	—	272.85	272.85	844.70
Oakham	180.52	279.00	20.00	—	31.07	31.07	180.00
			*3.36}				
Pembroke	1,180.85	1,136.59	260.00}	—	879.45	835.19	1,182.50
Phillipston	160.49	203.80	45.00	300.00	—	300.00	160.00
Plainville	661.54	810.65	—	500.40	397.29	897.69	649.90
Plympton	303.35	356.35	94.50	499.88	301.87	801.75	298.90
Rowley	601.48	922.54	—	400.38	578.32	978.70	590.00
Sandwich	1,126.15	1,198.20	62.95	300.00	987.79	1,287.79	1,120.20
Sherborn	1,004.66	3,097.02	343.63	200.00	259.92	459.92	1,203.70
Shirley	840.84	1,603.31	—	—	129.12	129.12	853.20
Southampton	402.70	402.93	239.00	500.00	—	500.00	403.00
Sterling	795.57	795.57	—	—	304.90	304.90	807.00
Stow	598.99	647.92	149.30	99.75	285.54	385.29	602.00
Sudbury	1,211.04	1,354.00	—	—	293.87	293.87	1,204.00
Sutton	717.37	1,000.00	—	293.00	—	293.00	775.00
Tyngsborough	636.75	636.77	79.25	350.00	370.30	720.30	634.00
	660.99	694.21	*9.60}	293.50	794.95	1,093.45	560.00
			195.75}				
Warwick	153.19	242.60	—	189.65	—	189.65	152.00
Wellfleet	832.05	832.05	120.00	347.25	286.39	633.64	880.00
West Newbury	605.42	627.63	—	297.80	266.51	564.31	550.00
West Tisbury	365.43	365.43	—	1,100.22	748.31	1,848.53	356.00

*Lead sold.



MAY 13 40 W.P.A.